



DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 191, 192, and 195

[Docket No. PHMSA-2020-0013]

RIN 2137-AF48

Pipeline Safety: Periodic Standards Update II

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking.

SUMMARY: PHMSA incorporates more than 80 voluntary, consensus, industry technical standards by reference within the Federal pipeline safety regulations (PSRs). This notice of proposed rulemaking (NPRM) proposes amendments that would incorporate by reference all or parts of updated editions of some of those standards. This NPRM also proposes non-substantive edits and clarifications to certain other provisions of the PSRs.

DATES: Members of the public who are interested in submitting comments on this NPRM must do so by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit comments, identified by Docket No. PHMSA-2020-0013, by any of the following methods:

- *E-Gov Web:* <https://www.regulations.gov>. This site allows the public to enter comments on any Federal Register notice issued by any agency. Follow the online instructions for submitting comments.
- *Mail:* Docket Management System, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building: Room W12-140, Washington, D.C. 20590-0001.

- *Hand Delivery:* DOT Docket Management System, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building: Room W12-140, Washington, D.C. 20590-0001, between 9:00 a.m. and 5:00 p.m. ET, Monday through Friday, except Federal holidays.
- *Instructions:* Identify Docket No. PHMSA-2020-0013 at the beginning of your comments. If you submit your comments by mail, submit two copies. If you would like confirmation that PHMSA received your comments, please include a self-addressed stamped postcard. Internet users may submit comments at <https://www.regulations.gov>.
- *Note:* All comments received are posted without edits to <https://www.regulations.gov>, including any personal information provided. Please see the Privacy Act heading for more information.
- *Privacy Act:* In accordance with 5 United States Code (U.S.C.) 553(c), the DOT solicits comments from the public to better inform its rulemaking process. The DOT posts these comments without edit, including any personal information the commenter provides, to <https://www.regulations.gov>, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <https://www.dot.gov/privacy>.
- *Confidential Business Information:* Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments in response to this notice contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this notice, it is important that you clearly designate the submitted comments as CBI. Pursuant to 49 Code of Federal Regulations (CFR) 190.343, you may ask PHMSA to provide confidential treatment to information you give to the agency by taking the following steps: (1) mark each page of the original document submission containing CBI as “Confidential;” (2)

send PHMSA a copy of the original document with the CBI deleted along with the original, unaltered document; and (3) explain why the information you are submitting is CBI. Submissions containing CBI should be sent to Tewabe Asebe, 1200 New Jersey Avenue SE, DOT: PHMSA – PHP-30, Washington, D.C. 20590-0001. Any commentary PHMSA receives that is not specifically designated as CBI will be placed in the public docket.

- *Docket:* For access to the docket or to read background documents or comments, go to <https://www.regulations.gov> and follow the online instructions to access the docket. Alternatively, you may review the documents in person at the street address listed above.

FOR FURTHER INFORMATION CONTACT:

Technical Information: Rod Seeley by phone at (713) 272-2852 or via email at Rodrick.M.Seeley@dot.gov.

Regulatory Information: Tewabe Asebe by phone at (202) 365-0226 or via email at Tewabe.Asebe@dot.gov.

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I. Introduction

This NPRM proposes the incorporation by reference of 28 updated, voluntary, consensus industry technical standards within the PSRs (49 CFR parts 190-199). These updated standards would generally, if adopted, maintain or improve public safety and environmental protection, prevent regulatory confusion and reduce compliance burdens on stakeholders, and satisfy a mandate in the National Technology Transfer and Advancement Act of 1995 (NTTAA) (15 U.S.C. 272 (note)), that directs Federal agencies to, “when practical and consistent with applicable laws, use technical standards developed by voluntary consensus standard bodies instead of government-developed technical standards.” PHMSA incorporates more than 80 consensus standards by reference into the PSRs; however, many standards become outdated over time as new editions become available. By updating these standards, PHMSA will ensure better alignment of the PSRs with the latest innovations in operational practices, testing, and technological advancements; enhance compliance by avoiding conflict between different versions of the same technical standards; and facilitate safety-focused allocation of resources by pipeline operators. Therefore, PHMSA expects that the updated standards in this rule will enhance the PSRs’ protection of public safety and the environment—including avoidance of greenhouse gas emissions in the form of methane releases from natural gas pipelines—and will be technically feasible, reasonable, cost-effective, and practicable in light of their anticipated public safety and environmental benefits, justifying any associated compliance costs.

II. Background

A. History of Incorporation by Reference

The Office of Management and Budget (OMB) sets the policy for Federal use and development of voluntary consensus standards in OMB Circular A-119 (“Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment

Activities”).¹ Material that is incorporated by reference (IBR) is treated as if it was published in full in the Federal Register and the PSRs. Therefore, like any other rule issued in the Federal Register, a voluntary, consensus, industry technical standard that has been incorporated by reference has the full force and effect of the law. As specified in 1 CFR 51.1(c), the director of the Federal Register has the authority to determine whether material that is proposed for incorporation by reference serves the public interest. If a provision of an incorporated standard conflicts with a regulation, the regulation takes precedence unless the regulation expressly provides otherwise.

PHMSA has incorporated more than 80 industry technical standards by reference into the PSRs. The lists of publications that PHMSA has incorporated into parts 192 (which regulates the transportation of natural gas by pipeline) and 195 (which regulates the transportation of hazardous liquids by pipeline) are found in §§ 192.7 and 195.3, respectively. Previous rules that incorporated updated consensus standards by reference were published on May 24, 1996, (61 FR 26121); February 17, 1998, (63 FR 7721); June 14, 2004, (69 FR 32886); June 9, 2006, (71 FR 33402); February 1, 2007, (72 FR 4655 (correction)); August 11, 2010, (75 FR 48593); January 5, 2015, (80 FR 168); and August 6, 2015, (80 FR 46847 (correction)).

The voluntary, consensus, industry technical standards related to pipeline facilities that are incorporated within the PSRs are developed or adopted by domestic and international standard development organizations (SDOs). Approximately every 2 to 5 years, these organizations use agreed-upon procedures to update and revise their published standards to reflect the latest developments in technology, testing, and operational practices. New or updated industry technical standards often incorporate new technologies, materials, management practices, and other innovations that can improve the physical integrity and the safe and environmentally protective operation of pipeline facilities.

¹ OMB, Circular No. A-119 (Feb. 10, 1998), <https://www.whitehouse.gov/wp-content/uploads/2017/11/Circular-119-1.pdf>.

PHMSA employees participate in meetings held by national SDOs that address the design, construction, maintenance, inspection, operation, and repair of pipeline facilities. PHMSA's subject matter experts represent the agency in all dealings with the SDOs, participate in discussions and technical debates, register opinions, and vote in accordance with the procedures of the SDOs at each stage of the standards development process (unless prohibited from doing so by law). PHMSA participates in this process to ensure that the agency's safety priorities are considered and to avoid the need to develop separate, government-unique standards.

PHMSA also regularly reviews updated editions of currently referenced consensus standards and amends the PSRs to partially or fully incorporate updated standards that will enhance or maintain pipeline and environmental safety. This ensures that the PSRs incorporate and facilitate the use of the latest technologies, materials, management practices, and other innovations. The adoption of more recent editions of standards also prevents conflicts between the standards referenced in the PSRs and updated versions of the same standards with which operators and suppliers may voluntarily comply, thereby 1) avoiding the confusion and expense associated with ensuring compliance with competing versions of the same standard, and 2) improving compliance and allowing the allocation of more operator resources toward safety and environmental protection. PHMSA reviewed the updated standards discussed in this proposed rule and considers them appropriate for incorporation by reference within the PSRs.

B. Availability of Materials to Interested Parties

Pursuant to Section 24 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (Pub. L. 112-90), "the Secretary may not issue a regulation pursuant to this chapter that incorporates by reference any documents or portions thereof unless the documents or portions thereof are made available to the public, free of charge." On November 7, 2014, the Office of the Federal Register issued a final rule that revised 1 CFR 51.5 to require that every Federal

agency must “discuss, in the preamble of the proposed rule, the ways that the materials it proposes to incorporate by reference are reasonably available to interested parties or how it worked to make those materials reasonably available to interested parties.”²

To meet these requirements, PHMSA negotiated agreements to make viewable copies of IBR standards available to the public at no cost with all but one of the SDOs whose updated standards PHMSA now proposes to incorporate by reference in the PSRs. The organizations that agreed to the requirements of Section 24 are: the American Petroleum Institute (API), the American Gas Association (AGA), ASTM International (formerly the American Society for Testing and Materials), the American Society for Nondestructive Testing (ASNT), the Gas Technology Institute, the Manufacturers Standardization Society of the Valve and Fittings Industry, Inc., the Association for Materials Protection and Performance (AMPP), the National Fire Protection Association (NFPA), and the Plastics Pipe Institute (PPI).³ Each organization’s mailing address and website is listed in 49 CFR parts 192 and 195. As of the date of publication of this NPRM, PHMSA was not able to reach a general agreement with the American Society of Mechanical Engineers (ASME); however, the ASME agreed to make the standards proposed in this rule available during the comment period. Information regarding standards availability can be found at <https://www.phmsa.dot.gov/standards-rulemaking/pipeline/standards-incorporated-reference>. Additionally, individuals and organizations may temporarily access the ASME standards incorporated by reference in this NPRM, as well as any other standard in this NPRM that is not otherwise available from the relevant SDO, by contacting PHMSA at the following email address: phmsaphpstandards@dot.gov. Such requests should include a phone number, physical address, and an email address.

III. Summary of Proposed Updates to Standards That Are Incorporated by Reference

² Office of the Federal Register, “Incorporation by Reference,” 79 FR 66267 (Nov. 7, 2014).

³ NACE International and the Society for Protective Coatings merged to form AMPP, which is why NACE standards are listed under AMPP.

The following list, which is organized alphabetically by SDO, includes the title and edition of each updated standard that PHMSA proposes to incorporate into the PSRs in this NPRM; the sections of the PSRs that reference each standard; a summary of the standard's purpose; identification of the currently incorporated edition of the standard; and a summary of the changes introduced in the latest version of the standard. The omission of a new edition of a standard in this NPRM does not imply that PHMSA has reviewed and rejected that updated standard.

PHMSA also requests comments about the potential incorporation of the 22nd edition of API Std 1104: Welding Pipelines and Related Facilities. PHMSA currently incorporates the 20th edition of API Std 1104 by reference within the PSRs and proposed the 21st edition for incorporation in the NPRM titled "Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments" (January 15, 2021; 86 FR 3938). PHMSA believes that incorporating the 22nd edition, which published in July 2021 and includes extensive changes and expanded requirements compared to its predecessors, will require additional resources and training for industry. PHMSA is particularly interested in comments from stakeholders regarding the use of the 22nd edition to develop welding procedures, as well as comments regarding implementation of the 22nd edition from the perspective of welders, welding inspectors, and engineers. PHMSA also solicits comments on any potential issues that could result from the incorporation of the 22nd edition. Finally, PHMSA specifically requests comments regarding the potential incorporation of Section 10 of the 22nd edition of API Std 1104 and its impact on the PSRs; in particular, on §§ 192.245 and 195.230.

In a comparison of the 21st and 22nd editions, the 22nd edition provides the following substantive changes: it revises sample forms; adds requirements for maximum-interpass temperature and post heating for hydrogen diffusion; includes formulas and the concept of heat input in the electrical-characteristics section; modifies the time required between passes for operators to only consider welding with cellulosic electrodes; and expands the definitions, the

filler-metal table, and the post-weld heat-treatment sections. Further, the 22nd edition incorporates a table of essential variables that includes modifications to base material and material thickness and provides hardness and/or toughness options, a preheating requirement, electrical-waveform requirements, interpass-temperature requirements, guidance on the temper-bead technique, and extensive notes. The 22nd edition also modifies the welder-qualification section to include procedure qualification, qualification-thickness ranges, filler-metal groups, a gas-metal arc-welding process statement, allowance for the qualification of two welders on one test weld, and a documentation requirement for procedure adherence during the qualification weld; it also reduces the required number of specimens.

The mechanized welding section of the 22nd edition includes documentation enhancements regarding the development of an essential-variable table that modifies the base material and material thickness, provides for a hardness and/or toughness option, includes electrical-waveform and interpass-temperature requirements, and adds extensive notes. The 22nd edition also adds a requirement to perform a nick-break test for mechanized procedures that include manual or semi-automatic passes and contains expanded welding-operator qualification requirements. Annex A of the 22nd edition considers the variability of welding electrodes, and Annex B uses a table format for essential variables that adds additional essential variables.

As stated previously, PHMSA believes that incorporating the 22nd edition will require additional investment from industry. As a result, PHMSA did not propose to adopt the 22nd edition in this NPRM, but requests comments as specified above to help inform our decision regarding whether to propose the 22nd edition for incorporation by reference in a future rule.

In this NPRM, PHMSA proposes to incorporate the following updated editions of voluntary, consensus, industry technical standards currently incorporated by reference in parts 192 and 195:

A. American Petroleum Institute

1. API Recommended Practice (RP) 652, 5th Edition (May 1, 2020): Linings of Aboveground Petroleum Storage Tank Bottoms

PHMSA proposes to incorporate by reference API Recommended Practice (RP) 652, 5th Edition (May 1, 2020): Linings of Aboveground Petroleum Storage Tank Bottoms into § 195.579(d) which addresses corrosion control in aboveground hazardous liquid breakout tanks. This RP provides acceptable methods for controlling corrosion in aboveground petroleum storage tanks with tank-bottom linings. It also contains information pertinent to lining application, surface preparation, curing, the selection of lining materials, and the inspection of tank-bottom linings for new and existing storage tanks. The PSRs currently incorporate the 3rd edition of this standard, which was published in 2005.

The 5th edition of RP 652 retains revisions introduced in the 4th edition (published on September 1, 2014) and includes 2016 errata. The 4th edition and the 2016 errata introduce more specific requirements than the 3rd edition regarding how and when tank bottoms that have degraded beyond the minimum bottom-renewal thickness must be lined, repaired, or replaced. The 4th edition addresses selecting lining materials, the installation and post-construction inspection of liners, revamped requirements regarding the use of fiberglass-reinforced plastic as an option for thick-film-reinforced linings, and guidance for thick-film-reinforced tank-bottom linings. Additionally, it expands the requirement to consider the effects of steam coils and other internal devices on tank-lining installation and integrity to include additional guidance on the thermal effect of steam coils on lining materials. The 4th edition also includes new requirements for preparing surfaces near tank internals, and the standard's sections on pre-installation cleaning provide additional guidance regarding water quality, cleaning soluble salts, compressed- or vacuum-air cleaning, and the effects of recycled media. The 4th edition directs tank owners to follow manufacturers' instructions during pre-installation preparation, installation, and post-construction inspection, especially during continuity (holiday) testing with high-voltage

detectors. Lastly, the 4th edition states that tank owners must consult with the lining manufacturer to select appropriate lining materials for the design and expected operating parameters of the tank.

The 5th edition of API RP 652 builds on the materials introduced in the 4th edition and consists mainly of editorial changes and clarifications regarding existing requirements. These changes include the addition of language that specifically addresses ethanol, biofuels, and solvents, including discussions of inorganic zinc/zinc silicate in connection with the definition, explanation, and prevention of stress-corrosion cracking. The 5th edition also incorporates minor edits to definitions, expands Section 5.3, changes its terminology in Section 12.4 to refer to “Safety Data Sheets (SDS)” instead of “Material Safety Data Sheets (MSDS),” and revises the Thick Film Reinforced Linings subsection in Section 6. Other positive changes include the expansion of sections that discuss the advantages and disadvantages of each type of lining and further explanation of holiday detection for pipelines with existing coatings, particularly in regard to the importance of cleanliness when establishing the efficacy of an existing coating.

The 5th edition removes a number of standards incorporated by reference in Section 2 of API RP 652, as well as references to particular editions of standards that remain in Section 2. PHMSA does not expect that the removal of references to certain standards incorporated by reference in previous editions of API RP 652 or the omission of references to specific editions of remaining standards would adversely impact safety. Further, while the 4th and 5th editions of API RP 652 also discuss the use of a risk-based approach to determine the frequency of inspection intervals, § 195.579(d) does not allow pipeline owners or operators to use a risk-based approach to determine inspection frequency.

PHMSA reviewed the revisions introduced in API RP 652 since publication of the 3rd edition of this standard and does not expect that their incorporation by reference into the PSRs will adversely affect corrosion-control measures for aboveground petroleum storage tanks. Rather, the incorporation of the updated standard could enhance the protection of public safety

and the environment because it reflects improved corrosion-control processes for aboveground breakout tanks, would reduce regulatory confusion, and avoids redundant compliance approaches from competing versions of the same standard. Therefore, PHMSA proposes incorporating the 5th edition of API RP 652 by reference within § 195.579(d). The updated standard would replace API Recommended Practice 652, 3rd Edition (October 2005): Linings of Aboveground Petroleum Storage Tank Bottoms.

2. API RP 2003, 8th Edition (September 1, 2015): Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents

PHMSA proposes the incorporation by reference of API RP 2003, 8th Edition (September 1, 2015): Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents into § 195.405(a) which addresses protecting against ignition when performing maintenance on aboveground hazardous liquid breakout tanks. This RP reflects the current state of technology and knowledge (based on experimentation and practical experience) applicable to the prevention of hydrocarbon ignition in petroleum industry applications due to static electricity, lightning, and stray currents. The PSRs currently incorporate the seventh edition of this standard, which was published in 2008.

PHMSA reviewed the 8th edition of API RP 2003 and noted that it contains only editorial changes and clarifications that would not adversely affect public safety or environmental protection. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. This would improve protection against ignition arising from static electricity, lightning, and stray currents during operation and maintenance activities involving aboveground hazardous liquid breakout tanks. PHMSA's adoption of the updated standard would replace existing references to API RP 2003, 7th Edition (January 2008): Protection against Ignitions Arising out of Static, Lightning, and Stray Currents.

3. API Specification (Spec) 12F, 13th Edition (January 1, 2019): Specification for Shop Welded Tanks for Storage of Production Liquids

PHMSA proposes the incorporation by reference of API Spec 12F, 13th Edition (January 1, 2019): Specification for Shop Welded Tanks for Storage of Production Liquids into §§ 195.132(b); 195.205(b); 195.264(b), (e); 195.307(a); 195.565; and 195.579(d) which govern the design, construction, operation, testing, and maintenance of aboveground hazardous liquid breakout tanks. This specification outlines design, fabrication, materials, and testing requirements for new, shop-fabricated, vertical, cylindrical, aboveground, welded-steel storage tanks that are designed according to the standard sizes and capacities for approximately atmospheric internal pressures. The PSRs currently incorporate the 12th edition of this standard, which was published in 2008.

PHMSA reviewed the 13th edition of API Spec 12F and noted that it contains only minor changes and clarifications regarding existing requirements that would not adversely affect public safety or environmental protection. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA acknowledges that the scope of API Spec 12F is directed towards shop-fabricated tanks for production operations, even though the scope of the PSR provisions that incorporate it by reference is broader in application. Therefore, PHMSA seeks comment regarding whether API 650 Annex J, which has a broader scope, would be more appropriate for incorporation in the PSRs than API Spec 12F. PHMSA may consider the removal of API Spec 12F from the list of incorporated standards in a future rule, but PHMSA currently proposes the adoption of the updated edition of that specification. PHMSA's adoption of the updated standard would replace existing references to API Spec 12F, 12th Edition (October 1, 2008): Specification for Shop Welded Tanks for Storage of Production Liquids.

4. API Standard (Std) 510, 10th Edition (May 1, 2014): Pressure Vessel Inspection Code: In-Service Inspection, Rating, Repair, and Alteration

PHMSA proposes the incorporation by reference of API Std 510, 10th Edition (May 1, 2014): Pressure Vessel Inspection Code: In-Service Inspection, Rating, Repair, and Alteration, including Addendum 1 (May 2017) and Addendum 2 (March 2018), into §§ 195.205(b) and 195.432(c) which govern the repair, inspection, and return to service of aboveground hazardous liquid breakout tanks. API Std 510 presents the current state of knowledge and technology applicable to the in-service alteration, inspection, repair, and rerating of steel pressure vessels, as well as the pressure-relieving devices that protect these vessels. The PSRs currently incorporate the 9th edition of this standard, which was published in 2006.

PHMSA reviewed the 10th edition of API Std 510 (including its 2017 and 2018 addenda) and noted that it contains editorial changes, revisions to mandatory and non-mandatory provisions, and clarifications regarding existing requirements. In addition, it includes new sections that improve standards that address the monitoring, maintenance, and repair of hazardous liquid breakout tanks. The new sections address management-of-change requirements; new procedures and requirements regarding the deferral of inspection tasks and inspection and repair, recommendation due dates; and creating, establishing, and monitoring integrity operating windows. The 10th edition also adds sections that provide recommendations regarding cyclic service vessels, operator surveillance, organizational inspection audits, and guidance for shell- and tube-heat-exchanger inspections. Finally, the revised standard clarifies that references to undated secondary standards throughout the 10th edition of API Std 510 should be considered references to the most recent editions of these documents, including any amendments thereto.

PHMSA reviewed the changes introduced in the 10th edition of API Std 510, as well as its 2017 and 2018 addenda, and expects that they will not adversely affect public safety or environmental protection. Indeed, incorporation of the updated standard could have safety and

environmental benefits that would stem from reduced incidents due to improved inspection and repair practices. PHMSA's adoption of the updated standard would replace existing references to API Std 510, 9th Edition (June 1, 2006): Pressure Vessel Inspection Code: In-Service Inspection, Rating, Repair, and Alteration.

5. API Std 2510, 9th Edition (August 2020): Design and Construction of LPG Installations

PHMSA proposes the incorporation by reference of API Std 2510, 9th Edition (August 2020): Design and Construction of LPG Installations into §§ 195.132(b); 195.205(b); 195.264(b), (e); 195.307(e); 195.428(c); and 195.432(c) which govern the design, construction, operation, inspection, and maintenance of aboveground hazardous liquid breakout tanks. This updated edition of the standard presents the current state of knowledge and technology applicable to the design or construction of facilities that handle or store liquefied petroleum gas at marine or pipeline terminals, natural gas processing plants, petrochemical plants, refineries, and tank farms. The PSRs currently incorporate the 8th edition of this standard, which was published in 2001.

PHMSA reviewed API Std 2510 and noted that it contains editorial changes and clarifications regarding existing requirements. These revisions include editorial and formatting updates and the removal of references to other standards. The standard also adds several subsections that include requirements for siting, drainage, vapor dispersion, and instrumentation. Further, the updated standard incorporates language stating that an undated document reference should be considered a reference to the most recent edition of the document, including any amendments.

PHMSA reviewed the changes introduced in the 9th edition of API Std 2510 and notes that they would not adversely affect public safety or environmental protection. Incorporation of the updated standard could have safety and environmental benefits that would stem from reduced

regulatory confusion regarding competing versions of the same standard, and from the addition of requirements for tank siting, drainage, vapor dispersion, and instrumentation. PHMSA's adoption of the updated standard would replace existing references to API Std 2510, 8th Edition (May 1, 2001): Design and Construction of LPG Installations.

API Std 1163, referenced in the proposed amendments, is already approved for the location where it appears and no changes are proposed.

B. American Society of Mechanical Engineers

1. ASME B16.40-2019 (February 11, 2019): Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems

PHMSA proposes the incorporation by reference of ASME B16.40-2019 (February 11, 2019): Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems into Item I of appendix B in part 192. This ASME standard reflects the current state of knowledge and technology applicable to manually operated thermoplastic valves in nominal valve sizes of half an inch through 12 inches in diameter that are intended for use below the ground in thermoplastic fuel-gas distribution mains and service lines. The standard also sets qualification requirements for each basic valve design, as well as for newly manufactured valves. The PSRs currently incorporate by reference the 2008 edition of this standard.

PHMSA reviewed two more recent editions—2013 and 2019—and noted that they contain a number of minor editorial changes and clarifications regarding existing requirements. PHMSA's review of the 2013 edition noted that it revises language in Section 6.3.3(b) to correctly refer to the "Valve Closure Test" instead of the "Closure Verification Test" and to more specifically require testing of all material or design variations for closure elements and/or seat seals for each nominal valve size. Additionally, this version updates language in Mandatory Appendix I to include more modern medium-density polyethylene (PE) pipe and material designation PE2708 instead of 2406 and incorporates other minor editorial corrections and revisions. The more modern designation is consistent with PHMSA regulations.

The 2019 edition of this standard retains the changes introduced in the 2013 edition of the standard and adds ASTM F2945: Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings as the standard specification for polyamide-11 (PA11), a type of plastic material, to Mandatory Appendix II: References. This change resulted in corresponding revisions where PA11 is mentioned in ASME B16.40-2019, including in Section 2.2.1, Subparagraph D of Section 5; the entirety of Section 3.2, which now clarifies the difference between the applicable standards for PE and PA11 valves; and the definition of valve dimensional-ratio equivalents. Additionally, this edition revises Subparagraph F of Section 5 to allow for the substitution of an identifier traceable to the date of manufacture in place of the date. It also revises Section 6.3.3 to more explicitly require manufacturers to perform either a 1,000-hour test at lower listed pressures or a 170-hour test at higher pressures, rather than simply permitting these tests to be used as options. Finally, the standard revises the number scheme of Table 6.3.3-1 and incorporates other minor editorial corrections and revisions.

PHMSA reviewed the changes in the 2019 edition of ASME B16.40 and does not expect that they will adversely affect public safety or environmental protection. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard and from providing specific requirements for pressure testing, thereby improving the integrity and operation of belowground, manually operated, thermoplastic valves that are used in thermoplastic fuel-gas distribution mains and service lines. PHMSA's adoption of the updated standard would replace existing references to ASME B16.40-2008 (April 30, 2008): Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems.

2. ASME B31.4-2019 (November 1, 2019): Pipeline Transportation Systems for Liquids and Slurries

PHMSA proposes the incorporation by reference of parts of ASME B31.4-2019 (November 1, 2019): Pipeline Transportation Systems for Liquids and Slurries into § 195.110(a), which governs hazardous liquid pipeline design requirements that pertain to external loads. Section 195.452(h), which governs pipeline integrity management in high consequence areas, is also listed in § 195.3 as a section that incorporates ASME B31.4; however, this reference will be removed in a future rule since it is not mentioned in § 195.452.⁴ ASME B31.4 outlines requirements for liquid pipeline systems, liquid-transporting pipelines, and non-hazardous aqueous-slurry-transporting pipelines. The PSRs currently incorporate the 2006 edition of this standard under a slightly different title: Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids.

PHMSA reviewed ASME B31.4-2019 and noted that a rewrite of Chapter II in the updated standard removes Section 419 of ASME B31.4-2006 and integrates it into Sections 401, 402, and 403. Therefore, PHMSA proposes the incorporation by reference of ASME B31.4-2019 Sections 401 and 402 in their entirety, as well as parts 403.3 and 403.9 of Section 403. This would establish essentially the same design requirements established by ASME B31.4-2006 without incorporating additional design requirements that the updated standard adds into later editions of B31.4, many of which are already included in other parts of 49 CFR part 195.

PHMSA reviewed the changes in the 2019 edition of ASME B31.4 and noted that they are consistent with PHMSA regulations and would not adversely affect public safety or environmental protection. Incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard, thereby improving the integrity and operation of hazardous liquid

⁴ PHMSA proposed the deletion of a stray reference to § 195.452(h) from § 195.3's discussion of ASME B31.4 in a separate NPRM (Docket No. PHMSA-2016-0002; RIN 2137-AF13). 86 FR 3938, 3949 (Jan. 15, 2021).

pipelines. PHMSA's adoption of the updated standard would replace existing references to ASME/ANSI B31.4-2006 (October 20, 2006): Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids.

C. The American Society for Nondestructive Testing

1. ASNT ILI-PQ-2017 (January 1, 2018): In-line Inspection Personnel Qualification and Certification

PHMSA proposes the incorporation by reference of ASNT ILI-PQ-2017 (January 1, 2018): In-line Inspection Personnel Qualification and Certification into §§ 192.493 and 195.591 which govern in-line inspection procedures and operator qualifications. This standard applies the current state of data and technology to the qualification and certification of in-line inspection (ILI) personnel whose jobs require specific knowledge of the technical principles of ILI technologies, operations, regulatory requirements, and industry standards that are applicable to pipeline systems. The PSRs currently incorporate the 2010 edition of this standard.

PHMSA reviewed ASNT ILI-PQ-2017 and noted that many of the changes from earlier versions are editorial in nature and do not significantly change the standard's requirements. However, the updated standard also includes substantive changes and improvements. Throughout the standard, the word "ensure" is changed to "verify," thereby providing additional clarity and certainty for users that they must verify requirements instead of ensuring them. Additionally, the new version of the standard incorporates more detail regarding each of the different examination requirements in Section 8 (which outlines requirements regarding the types of required examinations and their methods, content, and recordkeeping) and adds specificity to Section 8.1.2 by clarifying that exam results must be retained for "12 months beyond the length of employment." Finally, the updated standard includes significant updates to Section 8.3, including multiple new subsections. These additions result in heightened specificity throughout, thereby improving enforceability.

PHMSA reviewed the changes in the 2018 edition of ASNT ILI-PQ and noted that they would improve ILI operator qualification programs and processes, thereby enhancing public safety and the protection of the environment. PHMSA's adoption of the updated standard would replace existing references to the incorporated 2010 edition of ASNT ILI-PQ: In-line Inspection Personnel Qualification and Certification.

D. The Association for Materials Protection and Performance

1. NACE SP0102-2017 (March 10, 2017): In-Line Inspection of Pipelines

PHMSA proposes the incorporation by reference of NACE SP0102-2017 (March 10, 2017): In-Line Inspection of Pipelines into §§ 192.150(a); 192.493; 195.120; and 195.591 which govern ILI requirements for hazardous liquid and natural gas pipelines. NACE SP0102-2017 is applicable to ILI of carbon-steel pipeline systems that are constructed of Grade B or greater material and are used to transport natural gas and hazardous liquids, including anhydrous ammonia, carbon dioxide, water (including brine), liquefied-petroleum gases, and other fluids that are not detrimental to the function or stability of ILI tools. NACE SP0102-2017 states that it applies the most current data and technology to carbon steel pipeline systems that transport hazardous liquids and/or natural gas in the vicinity of a right-of-way. The PSRs currently incorporate the 2010 edition of this standard.

PHMSA reviewed NACE SP0102-2017 and noted that it contains mostly editorial changes and clarifications. The changes from NACE SP0102-2010 to NACE SP0102-2017 include the addition of acronyms (such as using "POD" in place of "Probability of Detection" or "ILI" instead of "In-line Inspection") and numerous editorial modifications that do not appear to change the meaning or requirements of the standard. One notable change between the 2010 and 2017 versions of NACE SP0102 is the alteration of most instances of the word "should" to the word "shall." In this standard, the terms "shall," "must," "should," and "may" are used in accordance with their definitions in the NACE Publications Style Manual. "May" is used to state

something optional, while “should” is used to state something that is recommended and considered a good practice, but that is not mandatory. “Shall” and “must” are used to state requirements that are considered mandatory.

One example of this change occurs in Section 4.4.2.14, which states that “[p]rovisions *shall* be made for the collection, wetting, removal, and safe disposal of pyrophoric materials.” A similar change occurs in Section 4.4.2.15.1, which states that “...in the case of gas transmission lines, the amount of gas available *shall* be sufficient to propel a tool if the speed control fails in the open position. For liquid service, kickers *shall* be sized to accommodate acceptable fullrate pressure drop and within company-specified erosion limits.” Section 4.8.1.1 states that “[a]s-built drawings should be reviewed to identify physical restrictions. If this information is inadequate, gauging or caliper pigs *shall* be run.” Section 5.1.1 states that “[c]ontracting for ILI work is a significant effort. The roles of the vendor and owner/operator *shall* be defined for all aspects of the work from implementation to delivery of the final report. The various stages of reporting and payment schedules associated with milestones *shall* be established. Factors such as the implications of reruns, scheduling changes, and service interruptions should be addressed.” In the above examples, each instance of a change from “should” to “shall” is indicated by the emphasis of the word “shall.”

The 2017 edition of this standard includes approximately 70 replacements of the word “should” with the word “shall.” As a result, parts of the standard that were recommendations are now mandatory. Since each instance where “should” is changed to “shall” creates a new obligation, each instance is a significant change. However, PHMSA believes that most of the pipeline industry voluntarily follows the requirements in the standard and that all pipeline operators, whether liquid or gas, either have knowledge of, or are familiar with, these requirements. Therefore, changing “should” to “shall” would have little to no adverse economic impact on operators, and it would enhance safety and environmental protection during ILI activities by ensuring the voluntary practices are elevated into PSR requirements. PHMSA’s

adoption of the updated standard would replace existing references to NACE SP0102-2010

(March 3, 2010): In-Line Inspection of Pipelines.

2. NACE SP0502-2010 (June 24, 2010), Standard Practice: Pipeline External Corrosion Direct Assessment Methodology (NACE SP0502)

PHMSA proposes to incorporate NACE SP0502-2010 into § 192.620(d)(7)(ii). NACE SP0502 provides guidance to pipeline operators regarding the assessment of pipelines for external corrosion. NACE SP0502 specifically applies to buried onshore pipelines constructed of ferrous materials. Under the current alternative maximum allowable operating pressure provisions for certain steel pipelines, § 192.620(d)(7)(ii) references section 4 of NACE RP-0502-2002. Section 4 of NACE RP-0502-2002 provides classifications for estimating the likelihood of corrosion activity, including corrosion activity resulting from construction damaged coating. The reference to NACE RP-0502-2002 was not updated when PHMSA updated NACE RP-0502-2002 to NACE SP0502-2010 for other sections in part 192 by means of a standards update rule that was issued on January 5, 2015. Upon review of NACE RP-0502-2002 and NACE SP0502-2010, PHMSA did not find any differences between the criteria specified in both documents. PHMSA's adoption of the updated standard would replace the existing reference in § 192.620(d)(7)(ii) to NACE SP0502-2010, Standard Practice, "Pipeline External Corrosion Direct Assessment Methodology," revised June 24, 2010, (NACE SP0502).

E. ASTM International

1. ASTM A372/A372M-20e1 (March 1, 2020): Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels

PHMSA proposes the incorporation by reference of ASTM A372/A372M-20e1 (March 1, 2020): Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels into § 192.177(b) which governs design requirements for bottle-type holders used in natural gas pipeline facilities. This specification presents the current state of knowledge and

technology regarding the manufacture of relatively thin-walled forgings—including gas bottles—for pressure-vessel use. The PSRs currently incorporate the 2010 edition of this standard.

PHMSA reviewed the 2012, 2013, 2015, 2016, and 2020 editions of ASTM A372 and noted that they contain only editorial changes and clarifications regarding existing requirements. The updated 2020 version of the standard—which incorporates revisions introduced in the 2012, 2013, 2015, and 2016 versions—includes several clarifications that reflect modern steel-making methods, including reductions in the maximum allowable amounts of phosphorous and sulfur and the addition of three new high-strength steel grades: Grades N, P, and R. Modern steel-making methods require less phosphorous and sulfur to create higher-strength steels, and result in steels that have greater ductility and are easier to weld. Additionally, the standard includes a clarification regarding the sampling location for destructive testing and a number of grammatical and stylistic changes, including hyphenating “full section” and changing “employed” to “used.”

PHMSA notes that the changes in the 2020 version of the standard described above represent a minor improvement of the standard that would provide an equivalent or greater level of safety than the 2010 version. Incorporation of the updated standard could also provide safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard, thereby improving the integrity of natural gas pipeline facilities. PHMSA’s adoption of the updated standard would replace existing references to ASTM A372/A372M-10 (October 1, 2010): Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels.

2. ASTM A578/A578M-17 (November 1, 2017): Standard Specification for Straight-Beam Ultrasonic Examination of Rolled Steel Plates for Special Applications

PHMSA proposes the incorporation by reference of ASTM A578/A578M-17 (November 1, 2017): Standard Specification for Straight-Beam Ultrasonic Examination of Rolled Steel

Plates for Special Applications into § 192.112(c) which governs design requirements for steel pipe used in certain natural gas facilities. This standard presents the current state of knowledge and technology applicable to the detection of internal discontinuities via straight-beam, pulse-echo, ultrasonic examination of rolled carbon and alloy steel plates that are greater than 3/8ths of an inch thick. The standard also addresses the qualifications required for inspectors of such plates. The PSRs currently incorporate the 2001 edition of this standard.

PHMSA reviewed both the 2007 and the 2017 editions of ASTM A578 and noted that they contain only editorial changes and clarifications regarding existing requirements. The 2007 clarifications include changing the title of the standard to reflect the removal of the reference to clad-steel plates, the deletion of Supplementary Requirements S6 and S7, the expansion of Supplementary Requirement S1 to include provisions for overlapping parallel paths, and a clarification that acceptance levels refer to recordable conditions that occur on the same plane. The 2017 clarifications include the inclusion of phased-array technology, the addition of a new section (Section 3: Terminology), and the renumbering of subsequent sections.

As noted previously, the 2017 version added phased-array technology as an ultrasonic testing option. This version also required that the equipment generate and display an A-scan—which is a way of displaying ultrasonic energy data that shows this energy as a function of time—instead of trace patterns. Further, the 2017 version removed apparatus linearity checks, which were one of many steps that previous editions required technicians to follow, and instead refers to an ASTM guide, an ASTM practice, or approval by ASTM A578 users. PHMSA requests comments regarding this standard's use of phased-array technology as an ultrasonic testing option, the use of A-scans instead of trace patterns, and the removal of apparatus linearity checks.

PHMSA reviewed the changes within the 2017 edition of ASTM A578 and noted that they would not adversely affect public safety or environmental protection. None of the edits to the 2017 version, which retains the changes introduced in the 2007 version, are substantive

changes. Incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard, thereby improving the safety of steel pipeline facilities that are subject to § 192.112(c). PHMSA's adoption of the updated standard would replace existing references to ASTM A578/A578M-96 (reapproved January 1, 2001): Standard Specification for Straight-Beam Ultrasonic Examination of Plain and Clad Steel Plates for Special Applications.

3. ASTM A672/A672M-19 (November 1, 2019): Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures

PHMSA proposes the incorporation by reference of ASTM A672/A672M-19 (November 1, 2019): Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures into §§ 192.113 and 195.106(e) and Item I of appendix B in part 192. This specification presents the current state of knowledge and technology regarding the manufacture of electric-fusion-welded pipe for use at moderate temperatures, including all temperatures for pipelines that are regulated by 49 CFR parts 192 and 195. The PSRs currently incorporate the 2009 edition of this standard.

PHMSA reviewed the 2014 and 2019 editions of the specification and noted that they contain only editorial changes and clarifications regarding existing requirements. The clarifications in the updated standard include minor edits to tables as a result of non-substantive changes to other ASTM standards. Therefore, PHMSA does not expect that the 2019 edition of ASTM A672, which retains the changes introduced by the 2014 edition, would adversely affect public safety or environmental protection. Incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM A672/A672M-09 (October 1, 2009): Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures.

4. ASTM D2513-20 (December 1, 2020): Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings

PHMSA proposes the incorporation by reference of ASTM D2513-20 (December 1, 2020): Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings into Items I.A. and I.B. of appendix B in part 192. This standard presents the current state of knowledge and technology applicable to PE pipe, tubing, and fittings used for fuel gas pipelines, including pipe that is used to distribute natural gas. The PSRs currently incorporate the 2018 edition of this standard.

PHMSA reviewed both the 2019 and 2020 editions of this standard and noted that they contain mainly editorial changes and clarifications regarding existing requirements. The clarifications in the 2019 edition of this standard include the addition of two notes, Note 2 and Note 25, which led to the renumbering of subsequent notes. Note 2 advises operators that regulatory requirements may prohibit the use of rework material, which is material taken from a pipe that didn't satisfy manufacturing specifications that is used to create a new pipe. Note 25 describes pipe markings in situations where regulatory requirements prohibit the use of rework material. Note 2 is accurate because PHMSA prohibits the use of rework materials in § 192.59(d). The 2020 edition, which retains the changes in the 2019 edition, includes a number of editorial changes and one clarifying change. The clarifying change revises Section 7.4 to clarify that the standard prohibits potable water, sewer, reclaimed water, communications, or electrical markings on pipe. Therefore, PHMSA expects that incorporating by reference the 2020 edition of ASTM D2513 would not adversely affect public safety or environmental protection. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to

ASTM D2513-18a (August 1, 2018): Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings.

5. ASTM D2564-20 (August 1, 2020): Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems

PHMSA proposes the incorporation by reference of ASTM D2564-20 (August 1, 2020): Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems into § 192.281(b)(2). This standard presents the current requirements for solvent cements that are used to join PVC piping systems. It addresses the requirements in Specification D1784 regarding PVC pipe that was created from compounds and includes Practice D2855's procedure for joining PVC fittings and pipe. The PSRs currently incorporate the 2012 edition of this standard.

PHMSA reviewed the 2018 and 2020 editions of ASTM D2564 and noted that, aside from one change, the 2020 edition (which retains the changes introduced in the 2018 edition) contains only editorial changes and clarifications regarding existing requirements. That change is the addition of F3328-18: Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets to a list of consensus industry standards referenced in ASTM D2564. Note: The PSRs only allow the repair of existing PVC piping in regulated piping systems, but do not permit the use of PVC or CPVC piping in new or replacement construction. Prior editions of ASTM D2564 only included a two-step solvent cement process that involved the use of a primer and cement to join PVC or CPVC piping. ASTM D2564 added F3328-18 to incorporate a new one-step application of solvent cement as a joining method for PVC or CPVC pipes and fittings. This alternative to the two-step primer and solvent process fulfills the requirements of ASTM D2564 and provides a joining method for PVC/CPVC pipes that is as safe, reliable, and effective as the two-step process. The substantive change in the 2020 edition

of the standard is consistent with PHMSA regulations, and neither this change nor the editorial changes and clarifications would adversely affect either pipeline safety or PHMSA regulations. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM D2564-12 (August 1, 2012): Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.

6. ASTM F1055-16a (November 15, 2016): Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing

PHMSA proposes the incorporation by reference of ASTM F1055-16a (November 15, 2016): Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing into both § 192.283(a) and Item I of appendix B in part 192. This standard presents the current state of knowledge and technology applicable to the use of electrofusion PE fittings with outside-diameter-controlled PE and PEX pipe. The standard also includes requirements for materials, workmanship, and performance testing of pertinent plastic piping. The PSRs currently incorporate the 1998 edition of this standard, which was reapproved in 2006.

The 2016a version of ASTM F1055 advances safety via several editorial and substantive changes, including clarifying requirements for electrofusion testing and qualification, removing ASTM standards that do not apply to these fittings, and making other improvements to the safety of fittings and the electrofusion joining process. One of the more substantive changes in ASTM F1055-16a is the addition of PEX pipe to the title and scope of the standard; however, part 192 does not include PEX piping standards, and this addition is not meant to imply that PEX is an acceptable piping material for part 192. In fact, the standard states that “[a]ssemblies using PEX

pipes joined with electrofusion fittings shall not be used for distribution of natural gas or liquid petroleum gas.” ASTM F1055-16a is a generic standard for PE Electrofusion Fittings that are used on multiple specifications of PE and PEX pipe and is designed to cover a variety of jurisdictions.

ASTM F1055-16a also adds new standards, incorporates updated versions of standards, and removes standards that are no longer being used. Newly incorporated requirements include Section 5.3.1, Section 5.5.1, and Mandatory Annex A2, which provide requirements for an optional alternative to full-scale tensile and crush tests for coupling-type joints that are 8-inch Iron Pipe Size (IPS) and larger in cases where equipment to provide the tests is not readily available. Standard equipment that is used to test pipes up to 6 inches in diameter does not have the strength to test pipes that are 8 inches in diameter or greater due to the increased wall thickness of the pipes, which increases their tensile strength and stiffness. Initial joint testing was developed on small-diameter plastic pipe that allowed testing equipment to conduct full-scale sample testing and qualification due to the wall thickness and resulting relative tensile strength of small-diameter pipe. However, the increased use of larger-diameter pipe of 8 inches and above led to the use of pipes with heavier walls and higher tensile strengths that create challenges for certain standard evaluations that are conducted with normal equipment, including full-scale tests. While manufacturers are working on developing full-scale testing options, the modified alternative testing was developed to test in a way that is similar to the way in which steel pipe and welds on steel pipe are tested. The testing requires standard samples cut from the joint or material to be qualified, after which the samples are tested according to standard methods and procedures listed in Appendix A2.

In addition, ASTM F1055-16a expands sections on minimum hydraulic burst and sustained pressure, adds figures for correct and incorrect wire terminations for couplings and saddles, and, to remain consistent with other standards, removes language and references to older PE pipe material designations such as PE2306, PE2406, PE3406, and PE3408 in favor of newer

designations such as PE2708 and PE4710. References to newer designations are consistent with PHMSA regulations.

PHMSA reviewed the changes in the 2016 edition of the standard and noted that they are consistent with current PHMSA regulations and would not adversely affect pipeline safety. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM F1055-98 (Reapproved March 1, 2006): Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing.

7. ASTM F1924-19 (August 1, 2019): Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing

PHMSA proposes the incorporation by reference of ASTM F1924-19 (August 1, 2019): Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing into Item I of appendix B in part 192. This standard presents the current state of knowledge and technology applicable to requirements and test methods for the qualification of plastic-bodied mechanical fittings for use with outside-diameter-controlled PE gas-distribution pipe that is nominal 2 IPS and smaller and that complies with Specification ASTM D2513. The standard also specifies general requirements for the material from which such fittings are made. The PSRs currently incorporate the 2012 edition of this standard.

PHMSA reviewed ASTM F1924-19 and noted that it contains mainly editorial changes and clarifications regarding existing requirements. These clarifications include the addition of two new paragraphs to Section 1: Paragraph 1.4 and Paragraph 1.7. Paragraph 1.4 describes the use of notes and footnotes as a means of providing explanatory material. Paragraph 1.7 is

focused on the principles of ASTM F1924-19, as well as its development as an international standard, and is consistent with updated language in other standards. Additionally, ASTM F1924-19 revises Section 7 to adjust Fahrenheit (F) temperature values from single-decimal-point values to rounded single-digit values (e.g., $73.4 \pm 3.6^{\circ}\text{F}$ ($23 \pm 2^{\circ}\text{C}$)) now reads $73 \pm 4^{\circ}\text{F}$ ($23 \pm 2^{\circ}\text{C}$). The standard also adjusts spacing for both F and C values. The changes in this standard are consistent with PHMSA regulations.

PHMSA reviewed the changes in the 2019 edition of the standard and noted that they are consistent with current PHMSA regulations and would not adversely affect pipeline safety. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM F1924-12 (April 1, 2012): Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing.

8. ASTM F1948-20 (February 1, 2020): Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing

PHMSA proposes the incorporation of ASTM F1948-20 (February 1, 2020): Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing into Item I of appendix B in part 192. This standard presents the current requirements and test methods for the qualification of metallic mechanical fittings that are designed to be used with outside-diameter-controlled thermoplastic gas distribution pipe and tubing, as specified in Specification D2513, F2785, or F2945. The PSRs currently incorporate the 2012 edition of this standard.

PHMSA reviewed the 2020 edition of ASTM F1948 and noted that it contains revisions, editorial changes, and clarifications regarding existing requirements that provide incremental

safety improvements. The revisions that provide incremental safety improvements include the elimination of nonmandatory Appendix X2, which is related to material, pipe size, and strength transitions, the incorporation of aspects from Appendix X2 into performance requirements for material transitions in the body of the standard, the addition of four referenced documents to Section 2 (D2513, E515, F2785, and F2945), and the addition of a requirement that installation instructions must state the piping material(s)/combinations for which the fitting was qualified. The elimination of nonmandatory Appendix X2 and the addition of performance requirements for material transitions in the body of the standard are important revisions, as they specify testing requirements for transitions between different thermoplastic piping (such as between PE and PA) or between metallic and thermoplastic piping. This standard also clarifies requirements for failure testing, joint qualification and testing, sealing mechanisms, and stiffener length in fittings. Finally, it adds transition fitting requirements to the body of the standard.

PHMSA reviewed the changes in the 2020 edition of the standard and noted that they are consistent with current PHMSA regulations and would not adversely affect pipeline safety. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM F1948-12 (April 1, 2012): Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing.

9. ASTM F1973-13(2018) (February 1, 2018): Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems

PHMSA proposes the incorporation by reference of ASTM F1973-13(2018) (February 1, 2018): Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution

Systems into § 192.204(b) and Item I of appendix B in part 192. This standard presents the current requirements and test methods for the qualification of factory-assembled anodeless risers and transition fittings that are designed to be used in gas distribution systems that use PE, PA11, and PA12 pipe. The standard covers sizes up to and including Nominal Pipe Size (NPS) 8 for PE pipe and up to and including NPS 6 for PA11 and PA12 pipe. The PSRs currently incorporate the 2013 edition of this standard.

PHMSA reviewed the 2018 edition of ASTM F1973-13 and noted that it contains only editorial changes and clarifications regarding existing requirements. ASTM F1973-13(2018) is the reapproved version of the 2013 edition of ASTM F1973-13 and does not include substantive changes. PHMSA's adoption of the updated standard would replace existing references to ASTM F1973-13 (May 1, 2013): Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems.

10. ASTM F2145-13(2018) (February 1, 2018): Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing

PHMSA proposes the incorporation by reference of ASTM F2145-13(2018) (February 1, 2018): Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing into Item I of appendix B in part 192. This standard presents the current state of PA11 and PA12 bodied mechanical fittings, including requirements regarding the material from which these fittings are constructed. The PSRs currently incorporate the 2013 edition of this standard.

PHMSA reviewed the 2018 edition of this standard, which is a reapproved version of the 2013 edition, and noted that it contains mainly editorial changes, such as the addition of a statement of conformity with international standardization guidelines established by the World

Trade Organization and other international bodies. The standard also includes the addition of Section 1.7, which is focused on the development and principles of F2145 as an international standard and is consistent with updated language in other standards.

PHMSA reviewed the 2018 edition of this standard and noted that the changes in this standard would be consistent with PHMSA regulations and the agency's safety mission. PHMSA's adoption of the updated standard would replace existing references to ASTM F2145-13 (May 1, 2013): Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing.

11. ASTM F2600-09(2018) (February 1, 2018): Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing

PHMSA proposes the incorporation by reference of ASTM F2600-09(2018) (February 1, 2018): Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing into Item I of appendix B in part 192. This standard presents the current materials, workmanship, and testing performance requirements for PA11 electrofusion fittings that are designed for use with outside-diameter-controlled PA11 pipe. The PSRs currently incorporate the 2009 edition of this standard.

PHMSA reviewed the 2018 edition of ASTM F2600, which is the reapproved version of the 2009 edition that is currently incorporated by reference and noted that that it contains mainly editorial changes and clarifications regarding existing requirements. These clarifications include the addition of Section 1.4, which is focused on the development and principles of F2600 as an international standard and is consistent with updated language in other standards. PHMSA reviewed the 2018 edition of this standard and noted that the changes in the standard are consistent with PHMSA regulations and the agency's safety mission. Indeed, incorporation of

the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to ASTM F2600-09 (April 1, 2009): Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing.

12. ASTM F2620-20ae2 (December 1, 2020): Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

PHMSA proposes the incorporation by reference of ASTM F2620-20ae2 (December 1, 2020): Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings into §§ 192.281(c) and 192.285(b). This standard presents the current state of knowledge and technology applicable to creating joints via heat-fusion joining of PE pipe and fittings in a variety of environments, including the field. The PSRs currently incorporate by reference the 2019 edition of this standard.

PHMSA reviewed ASTM F2620-20, ASTM F2620a, ASTM F2620ae1, and ASTM F2620ae2 and noted that these updated standards contain mainly editorial changes, clarifications regarding existing requirements, and incremental safety improvements. The ASTM F2620-20 standard improves the fusion process by clarifying the appropriate appearance of correctly installed and maintained joints, clarifies the importance of refraining from stressing a joint until it has fully cooled, and explains the use of a contact instrument to confirm heater-plate temperature. Further, the language throughout ASTM F2620-20 provides clearer and easier-to-follow expectations for joints than the language in ASTM F2620-19. The revised sections in ASTM F2620-20 enhance this standard by providing guidance regarding the creation and inspection of fusion joints. Additionally, ASTM F2620-20 adds the following reference documents to Section 2 in order to provide updated guidance regarding the verification and use of this standard:

- F3124: Practice for Data Recording the Procedure used to Produce Heat Butt Fusion Joints in Plastic Piping Systems or Fittings;
- F3183: Practice for Guided Side Bend Evaluation of Polyethylene Pipe Butt Fusion Joint; and
- F3190: Practice for Heat Fusion Equipment (HFE) Operator Qualification on Polyethylene (PE) and Polyamide (PA) Pipe and Fittings.

ASTM F2620-20a adds comments in Table 2 referencing the new Appendix A.2 and additional information regarding the acceptable use of a 500 °F fusion temperature. The clarifications in ASTM F2620a include incremental safety improvements such as clarifications and edits to certain steps in the fusion process, such as information about the use of a contact instrument to confirm heater-plate temperature, a clearer description of the visual markers of bad or incorrect joints that operators can identify during visual inspections, and details regarding the importance of not stressing a joint until it has cooled properly. The sole editorial change in ASTM F2620ae1 is a correction to insert the words “is allowed” into the first statement in Table 2, as those words were unintentionally omitted in previous editions of this standard.

Finally, ASTM F2620-20ae2 includes an editorial change to Table 2 of ASTM F2620-20ae1 that corrects the metric conversion from Fahrenheit to Celsius. PHMSA reviewed the F2620ae2 edition of this standard and noted that the changes in this standard are consistent with PHMSA regulations and the agency’s safety mission. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA’s adoption of the updated standard would replace existing references to ASTM F2620-19 (February 1, 2019): Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings.

13. ASTM F2767-18 (April 1, 2018): Standard Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution

PHMSA proposes the incorporation by reference of ASTM F2767-18 (April 1, 2018): Standard Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution into Item I of appendix B in part 192. This standard presents the current state of knowledge and technology applicable to PA12 electrofusion fittings for use with outside-diameter-controlled PA12 pipe, as covered by ASTM F2785. The standard also includes requirements for materials, workmanship, and testing performance. The PSRs currently incorporate by reference the 2012 edition of this standard.

PHMSA reviewed the 2018 edition and noted that it contains editorial changes and clarifications regarding existing requirements. These include adding clarifying language in Sections 1.4 and 1.5 regarding the development of ASTM F2767 as an international standard. The standard also revises Section 6.1 to clarify requirements for dimensions and tolerances and improves clarity by moving the reference to Test Method D2122. The standard moves what was formerly Section 6.2 to a note and renumbers other sections accordingly. Additionally, it revises Section 8 to improve temperature consistency during treatment and testing. The standard adds Section 8.1.3 to clarify conditioning temperatures for fittings and pipe, as well as the test temperature in Section 8.2 with Standard Laboratory Temperature.

PHMSA reviewed the 2018 version of ASTM F2767 and noted that its changes clarify the standard, enhance pipeline safety, and are consistent with PHMSA regulations. PHMSA's adoption of the updated standard would replace existing references to ASTM F2767-12 (October 15, 2012): Standard Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution.

14. ASTM F2785-21 (July 1, 2021): Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings

PHMSA proposes the incorporation by reference of ASTM F2785-21 (July 1, 2021): Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings into Items I.A. and I.B. of appendix B in part 192. This standard presents the current requirements and test methods for the characterization of PA12 pipe, tubing, and fittings for use in fuel-gas mains and services for direct burial and re-liner applications. The PSRs currently incorporate the 2012 edition of this standard.

PHMSA reviewed the 2018, 2018a, 2020, 2020e1, and 2021 editions of ASTM F2785 and noted that they contain editorial changes and clarifications regarding existing requirements that would improve safety. In the 2018 edition, these clarifications include revising the first sentence of Section 1.1.1 from “[t]his specification does not cover threaded pipe” to “[p]ipe and fittings covered by this specification shall not be joined using taper pipe threads,” which is more stringent language than in previous editions of the standard. The 2018 edition adds a second sentence directly after the first that states: “[j]oining methods qualified in accordance with the requirements of Title 49 CFR Part 192.283 are acceptable.” In addition, the standard revises Table 1 to include the pounds per square inch equivalents for the Megapascal values, revises Tables 3 and 5 to reduce the number of decimals for the millimeters in the last columns from three to two points, removes Section 5.4: Conditioning of Samples, and renumbers the remaining subsections of Section 5. Section 5.4 is unnecessary because Section 6.3: Conditioning of Samples, which is still in the standard, makes it redundant. The 2018a edition of ASTM F2785 revises Section 7.1 to reorder language regarding required markings. Both the 2018 and the 2018a editions incorporate other minor editorial revisions.

The 2020 edition retains the changes introduced in the 2018 and 2018a editions and references ASTM F3372, which describes the procedures operators should follow when creating butt-fusion joints for PA12 pipe and fittings. These procedures require operators to adopt a

consistent and qualified joining method for PA12 materials and are similar to the procedures required for PE pipe in D2513 and F2620. Other clarifications—such as the inclusion of an ASTM standard that addresses pipes with diameters of up to 12 inches—ensure that, in the future, PHMSA will have the option to allow the use of larger-diameter PA12 pipe. The 2020 edition enhances previous revisions by adding and revising sections, and significantly improves safety by referencing ASTM F3372 and expanding the standard to allow the production and use of up to 12-inch diameter pipe. Incorporation of this standard does not impact the diameter or pressure limitations for PA12 pipe in 49 CFR 192.121.

The 2020e1 edition of this standard is almost identical to the 2020 edition, as the only change in the 2020e1 edition is a correction to Table 4 that changes one of the column headings from “Maximum Wall Thickness” to “Minimum Wall Thickness.” The revisions to the 2021 edition were designed to align the standard with the requirements in the pipeline safety regulations. Further, the 2021 edition uses Note 5 to clarify the way in which operators can determine outdoor storage resistance. While notes are non-mandatory aspects of ASTM standards, they are valuable sources of guidance for the individuals and organizations that use the standards.

PHMSA reviewed the 2021 edition of this standard and noted its changes are consistent with PHMSA regulations and the agency’s safety mission. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA’s adoption of the updated standard would replace existing references to ASTM F2785-12 (August 1, 2012): Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings.

15. ASTM F2817-13(2019) (May 1, 2019): Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings for Maintenance or Repair

PHMSA proposes the incorporation by reference of ASTM F2817-13(2019) (May 1, 2019): Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings for Maintenance or Repair into Items I.A. and I.B. of appendix B in part 192. This standard presents existing industry requirements for PVC pipe, tubing, and fittings that are used to maintain or repair existing PVC gas piping. The PSRs currently incorporate the 2010 edition of this standard.

PHMSA reviewed the 2013 and 2019 editions of ASTM F2817. The changes in the 2013 edition, which incrementally improve safety by updating the applicable specifications and material requirements for PVC compounds, include the addition of Specification D1784 to Section 2, the removal of Specification D3915 from Section 2, and the substitution of Specification D1784 for Specification D3915 in Tables 5 and 6. Specification D1784 replaces Specification D3915 as the specification for rigid PVC compounds. Additionally, the 2013 edition revises Section 4.3 to require that the PVC compounds used for pipe and fittings must equal or exceed PVC 12454 or 14333, which are described in Specification D1784. The 2019 version is a reapproved version of the 2013 edition, and thus contains no technical changes.

PHMSA reviewed the 2019 edition of this standard and noted that its non-technical changes are consistent with PHMSA regulations and the agency's safety mission. PHMSA's adoption of the updated standard would replace existing references to ASTM F2817-10 (February 1, 2010): Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings For Maintenance or Repair.

16. ASTM F2945-18 (September 1, 2018): Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings

PHMSA proposes the incorporation by reference of ASTM F2945-18 (September 1, 2018): Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings into Items I.A. and I.B. of appendix B in part 192. This standard presents requirements and test methods for the characterization of PA11 pipe, tubing, and fittings that will be used on fuel gas pipelines. The PSRs currently incorporate the 2012 edition of this standard.

PHMSA reviewed the 2018 edition of ASTM F2945 and noted that it contains mainly editorial changes and clarifications regarding existing requirements. These clarifications include moving Note 1—which states that heat-fusion joining is restricted to PA11 materials—from Section 1.5 to Section 1.2. In other words, Note 1 states that cross-fusion joining with other materials is not permitted. The standard also corrects the title of ASTM D789 in Section 2.1; adds Section 1.6 to address international standard principles; revises and reorders Section 7.1; adds F1563 to Section 2.1; removes gas distribution from Section 7.3; and incorporates other minor editorial changes.

PHMSA reviewed the 2018 edition of this standard and noted that its changes are consistent with PHMSA regulations and the agency's safety mission. PHMSA's adoption of the updated standard would replace existing references to ASTM F2945-12a (November 27, 2012): Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings.

F. The National Fire Protection Association

1. NFPA 30, 2021 Edition (August 31, 2020): Flammable and Combustible Liquids Code (ANSI Approved)

PHMSA proposes the incorporation by reference of NFPA 30, 2021 Edition (August 31, 2020): Flammable and Combustible Liquids Code (ANSI approved) into §§ 192.735(b) and

195.264(b). NFPA 30 applies to the safe storage, handling, and use of flammable and combustible liquids. The PSRs currently incorporate the 2012 edition of this standard.

NFPA 30 is incorporated into 49 CFR 192.735(b), which applies to the storage of combustible materials in compressor stations that are subject to 49 CFR part 192. Section 192.735(b) states that owners and operators must protect aboveground oil or gasoline storage tanks in accordance with NFPA 30. Chapter 22 of NFPA 30 addresses the storage of ignitable liquids in aboveground storage tanks and includes two pertinent sections: Sections 22.2.3 and 22.10. Section 22.2.3 provides the definition of a protected aboveground tank, while Section 22.10 specifies additional requirements for protected aboveground storage tanks.

NFPA 30 is also incorporated into 49 CFR 195.264(b), which includes provisions for impoundment, entry protections, venting, and pressure relief for aboveground breakout tanks. Section 195.264(b)(1) states that owners and operators of tanks built in accordance with certain specifications—such as API Spec 12F, API Std 620, and others—must install impoundments that comply with specific sections of NFPA 30. For example, § 195.264(b)(1)(i) requires impoundments around breakout tanks to be installed in accordance with Section 22.11.2 of NFPA 30, and § 195.264(b)(1)(ii) requires impoundments that drain to remote impounding areas to be installed in accordance with Section 22.11.1 of NFPA 30.

The 2021 edition of NFPA 30 revises the 2012 edition, which is currently incorporated by reference, in several ways. For example, it revises the classification scheme for liquids by introducing the term “ignitable liquid” in place of the terms “combustible liquid” and “flammable liquid.” This revision reduces regulatory confusion regarding authorities with overlapping jurisdictions, such as fire officials, occupational safety officials, and transportation officials. The 2021 edition also updates a secondary reference from the 1998 edition of UL 2085 to the 2018 edition. This secondary reference provides information regarding testing and listing protected aboveground tanks for flammable and combustible liquids.

PHMSA reviewed the 2021 edition of this standard and noted that its changes are consistent with PHMSA regulations and the agency's safety mission. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA's adoption of the updated standard would replace existing references to NFPA 30, 2012 Edition (June 20, 2011): Flammable and Combustible Liquids Code, Including Errata 30-12-1 (September 27, 2011) and Errata 30-12-2 (November 14, 2011).

G. Plastics Pipe Institute

1. PPI T R 3 /2021 (June 16, 2021): Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Hydrostatic Design Stresses (HDS), Pressure Design Basis (PDB), Strength Design Basis (SDB), Minimum Required Strength (MRS) Ratings, and Categorized Required Strength (CRS) for Thermoplastic Piping Materials or Pipe

PHMSA proposes the incorporation by reference of PPI TR-3/2021 (June 16, 2021): Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Hydrostatic Design Stresses (HDS), Pressure Design Basis (PDB), Strength Design Basis (SDB), Minimum Required Strength (MRS) Ratings, and Categorized Required Strength (CRS) for Thermoplastic Piping Materials or Pipe into § 192.121(a). This report presents the policies and procedures that PPI's Hydrostatic Stress Board (HSB) used to develop long-term, strength-rating recommendations for commercial thermoplastic piping materials or pipe. The recommendations are published in PPI Technical Report 4 (TR-4)/2021 (June 16, 2021): PPI HSB Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe, a regularly updated document that is also proposed for incorporation in this rule. The PSRs currently incorporate the 2012 edition of PPI TR-3.

PHMSA reviewed the 2018, 2020, and 2021 editions of PPI TR-3 and noted that they contain mainly editorial changes and clarifications regarding existing requirements that incrementally improve safety. The clarifications in the 2018 edition include the addition of a definition for solid-wall pipe, the removal of the definition of multilayer pipe to eliminate confusion regarding groups of composite pipe materials, the addition of new language regarding requirements for the stress-rupture dataset to qualify for a standard-grade listing, and the revision of certain definitions, including a change to the definition of composite pipe that adds three groups of materials and three subgroups of materials to Group 3. The report also clarifies the qualification of materials using PPI standards, including 5-year renewal requirements for the standard grade of each material.

The 2020 edition also includes grammatical, editorial, and formatting changes that clarify the language of this standard, including expanded explanations regarding the renewal and duration of hydrostatic-design-basis recommendations. Additionally, the revisions to the 2020 edition significantly improve the standard by reformatting the document and creating numerous information tables that facilitate use of this standard.

The 2021 edition incorporates numerous clarifications regarding current requirements, including the addition of a definition for “commercially produced pipe” and edits to other statements to ensure that they are consistent with this definition. The 2021 edition also adds the Part G PEX initial listing policy and edits the hydrostatic-design-basis validation for 180 °F hydrostatic-design-basis PE compounds.

PHMSA reviewed the 2021 edition of this standard and noted that its changes are consistent with PHMSA regulations and the agency’s safety mission. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA’s adoption of the updated standard would replace existing references to PPI TR-3/2012 (November 2012): Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Hydrostatic Design

Stresses (HDS), Pressure Design Basis (PDB), Strength Design Basis (SDB), Minimum Required Strength (MRS) Ratings, and Categorized Required Strength (CRS) for Thermoplastic Piping Materials or Pipe.

2. PPI T R 4/2021 (June 16, 2021): PPI HSB Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe

PHMSA proposes the incorporation by reference of PPI TR-4/2021 (June 16, 2021): PPI HSB Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe into § 192.121(b)(4). This report details thermoplastic piping materials with a PPI-recommended HDB, SDB, PDB, or MRS rating for thermoplastic piping materials or pipe. This information was established in accordance with PPI TR-3/2021 (June 16, 2021): Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Hydrostatic Design Stresses (HDS), Pressure Design Basis (PDB), Strength Design Basis (SDB), Minimum Required Strength (MRS) Ratings, and Categorized Required Strength (CRS) for Thermoplastic Piping Materials or Pipe, a regularly updated document that is also proposed for incorporation in this rule. The PSRs currently incorporate the 2011 edition of PPI TR-4.

PHMSA reviewed the 2018, 2019, 2020, and 2021 editions of PPI TR-4 and noted that they contain only editorial changes and clarifications regarding existing requirements that incrementally improve safety. The clarifications added between 2011 and 2018 include updated titles and numbering, deletions and additions of companies and material designations from Table I.A.I, deletion of materials from Table I.A.2, reorganization of some information and charts, the incorporation of additional specifications to Table I.A.6, and other editorial clarifications. The

changes between the 2018 and 2019 versions include an edited cover page; the addition of a copyright statement (similar to that found in PPI TR-4/2011); the removal of the copyright statement from the forward page; the addition of references and introductory statements; more consistent numbering; table reformatting; name changes and removals; date changes; edited expiration dates; the removal of Table I.A.21; the inclusion of Table I.A.3; and edits, additions, and removals in Tables I.A.1, I.A.3, I.A.6, I.A.8, I.A.9, I.A.13, I.A.14, and III.A.2.

The changes between the 2019 and 2020 editions include revised formatting, grammatical edits, expiration date and company name changes, the removal of definitions, tables, and materials, and the addition of new companies, sections, definitions, tables, materials, and appendices. Further, the 2020 edition incorporates updated information (such as listing the current manufacturers who produce resin for use in pipe fabrication), specifies that the design pressure for thermoplastic materials in the PSRs is based on HDB, and changes the number of a report listed under ASTM Specification on Page 15 from D1785 to D1784. This edition also removes the list of properties and acronyms from the Forward page, creates a new page to separate the list of definitions from the list of acronyms, and incorporates a summary of changes.

The clarifications in the 2021 edition include new text on the title page, editorial corrections, inclusion of the updated PPI logo, and relabeling of one of the appendices from “Appendix D” to “Appendix B.” Further, the 2021 edition incorporates the most updated information for pipe or fitting manufacturers—including current resin manufacturers—thereby enabling pipe and fitting manufacturers to select the appropriate resin for a given application.

PHMSA reviewed the 2021 edition of this standard and noted that its changes are consistent with PHMSA regulations and the agency’s safety mission. Indeed, incorporation of the updated standard could have safety and environmental benefits that would stem from reduced regulatory confusion regarding competing versions of the same standard. PHMSA’s adoption of the updated standard would replace existing references to PPI TR-4/2011 (March 2011): PPI Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design

Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe.

IV. Miscellaneous Amendments

PHMSA is also proposing several minor editorial amendments and corrections to the PSRs, including the removal of ASTM D638: Standard Test Method for Tensile Properties of Plastics from the listing in § 192.7(e)(10), which should have occurred due to other changes made by the Plastic Pipe Rule (83 FR 58694), which published on November 20, 2018. The standard is no longer referenced in § 192.283(a-b) as a result of changes the Plastic Pipe Rule made that altered the language to read “in accordance with a listed specification,” which refers to Items I.A. and I.B. of appendix B in part 192. Additional standards are now incorporated for different material types, such as ASTM F2945 for PA11 and ASTM F2785 for PA12. ASTM D638 is a referenced document within both those standards and ASTM D2513 for PE, and therefore no longer needs to be directly incorporated by reference into § 192.7. Section 192.7(e)(10) would be reserved.

Additionally, PHMSA will revise § 191.9: Distribution system: Incident report. Currently, § 191.9(a) references Department of Transportation Form RSPA F 7100.1, which is the previous version of the form. PHMSA proposes to change this reference to Department of Transportation Form PHMSA F 7100.1. Further, PHMSA would remove references to specific editions of the standards in this rule throughout parts 192 and 195, except in §§ 192.7 and 195.3. To determine the edition of the standard that is incorporated by reference, operators would refer to §§ 192.7 and 195.3. PHMSA already directs operators to these sections with the following language, which is used throughout parts 192 and 195 whenever a standard is referenced: “(incorporated by reference, see § 192.7)” or “(incorporated by reference, see § 195.3).” Failure to reference these sections may not serve as the basis for a request for leniency in an enforcement case. PHMSA plans to remove references to other specific editions of standards from parts 192

and 195 in future rules. Removing extraneous references to edition numbers would increase administrative efficiency and reduce regulatory uncertainty that could result from inadvertently referencing outdated editions of standards. These amendments would simplify both future standards update rules and the PSRs.

Further, PHMSA proposes to revise the definition of a moderate consequence area in § 192.3 to replace the reference to a Federal Highway Administration (FHWA) document, Highway Functional Classifications Concepts, Criteria and Procedures. PHMSA also proposes the addition of a new appendix, appendix G, to part 192 to provide the guidance on moderate consequence areas that is currently provided by the FHWA's Highway Functional Classifications Concepts, Criteria and Procedures document. The proposed appendix G includes guidance relevant to the terms "Designated Interstate," "Freeway," "Expressway," and "Principal Arterial Roadway," which appear in the definition of a moderate consequence area. The proposed appendix repeats the information from this document verbatim. PHMSA does not propose to make any substantive change to the definition of a moderate consequence area.

Finally, PHMSA proposes to incorporate a number of other minor updates and changes, including:

- Removing "telephonic" from § 191.5(c), thereby allowing either method of reporting noted in § 191.5(b) to apply in § 191.5(c);
- Amending § 191.22(c)(1)(i) to change "of" to "or" in the following phrase: "Construction of any planned rehabilitation," thereby rectifying a typographical error;
- Correcting the reference in § 192.327(g) from § 192.612(b)(3) to § 192.612(c)(3);
- Adding § 192.620(d) to the list of reference locations for NACE SP0502, which is currently listed in § 192.7(h)(1);
- Amending § 192.620(d)(7)(ii) to reference "NACE SP0502" instead of "NACE RP-0502-2002;"

- Amending the address in § 192.18(a)(2) to read: “ATTN: Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, PHF-30, 1200 New Jersey Avenue SE, Washington, D.C. 20590;”
- Amending appendix B to part 192 to remove version numbers from the referenced standards;
- Amending appendix B to part 192 to standardize the structure of the references; and
- Amending § 195.54 to add DOT Form 7000-2.

V. Regulatory Analyses and Notices

A. Legal Authority for this Rulemaking

This NPRM is published under the authority of the Federal Pipeline Safety Laws (49 U.S.C. 60101 *et seq.*). 49 U.S.C. 60102 authorizes the Secretary of Transportation to issue regulations governing the design, installation, inspection, emergency plans and procedures, testing, construction, extension, operation, replacement, and maintenance of pipeline facilities. The Secretary of Transportation delegated this authority to the PHMSA Administrator under 49 CFR 1.97. Further, 49 U.S.C. 60102(l) states that, to the extent appropriate and practicable, the Secretary shall update incorporated industry standards that were adopted as part of the PSRs. This NPRM proposes the incorporation of 28 updated standards to replace earlier versions of those standards that are currently incorporated by reference within the PSRs. In addition, this NPRM proposes other minor clarifying and editorial changes to the PSRs.

B. Executive Order 12866 and DOT Policies and Procedures for Rulemaking

Executive Order 12866 (“Regulatory Planning and Review”) states that agencies “should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating.”⁵ Agencies should consider both quantifiable measures and qualitative measures of

⁵ 58 FR 51375 (Oct. 4, 1993).

costs and benefits that are difficult to quantify. Further, Executive Order 12866 requires that agencies “should select those [regulatory] approaches maximize net benefits (including potential economic, environmental, public health and safety, and other advantages, as well as distributive impacts and equity), unless a statute requires another regulatory approach.” Similarly, DOT Order 2100.6A (“Rulemaking and Guidance Procedures”) requires that regulations issued by PHMSA and other DOT operating administrations should consider an assessment of the potential benefits, costs, and other important impacts of the proposed action; they should also quantify (to the extent practicable) the benefits, costs, and any significant distributional impacts, including any environmental impacts.

Executive Order 12866 and DOT Order 2100.6A require that PHMSA submit “significant regulatory actions” to the OMB for review. However, this NPRM is not considered a significant regulatory action under Executive Order 12866 and, therefore, was not subject to review by the OMB. Further, the DOT considers this NPRM to be non-significant pursuant to DOT Order 2100.6A. The Office of Information and Regulatory Affairs (OIRA) has not designated this NPRM as a major rule as defined by the Congressional Review Act (5 U.S.C. 801 *et seq.*).

In accordance with the NTTAA and OMB Circular A-119, PHMSA constantly reviews new editions and revisions to relevant standards and publishes a proposed rule every 2-3 years to incorporate new or updated consensus standards by reference. This practice is consistent with the intent of the NTTAA and OMB directives to avoid the need to develop government standards that could potentially result in regulatory conflicts with updated SDO-developed standards and an increased compliance burden for industry.

PHMSA expects that the proposed changes to the PSRs described in this NPRM would result in unquantified public safety and environmental benefits associated with the updated standards. Although, as discussed above, many of the changes within the updated industry standards proposed for incorporation within the PSRs are editorial revisions or clarifications,

others consist of substantive changes that reflect advancements in the state of knowledge (based on developments in technology, testing, and practical experience) compared to earlier versions of the same standards. PHMSA's technical review of those updated standards noted that their incorporation as proposed would generally enhance the PSRs' protection of public safety and the environment.

Further, PHMSA estimates the administrative burden for stakeholders stemming from the incorporation of these 28 updated standards would be negligible and the net economic benefits would be high. According to the annual reports that operators submit to PHMSA, there are more than 2,813 entities operating distribution systems and facilities for gas gathering, gas transmission, hazardous liquids, liquefied natural gas, and underground natural gas storage as of May 23, 2021. In fact, updates to consensus industry standards are generally accepted and followed on a voluntary basis throughout most of the pipeline industry. PHMSA understands that the majority of pipeline operators already purchase and voluntarily apply industry standards—including the updated standards that are the subject of this rulemaking—within their ordinary business practices. Incorporation of the updated version of these standards within the PSRs would help ensure that the industry is not forced to incur the additional cost of complying with different versions of the same standards.

In addition to incorporating new and updating existing voluntary consensus standards, PHMSA is proposing non-substantive editorial changes and clarifications of certain provisions of regulatory language. Since these editorial changes are relatively minor, this proposed rule would not require pipeline operators to undertake significant new pipeline safety initiatives and would have negligible cost implications. The non-substantive changes would increase the clarity of the PSRs, thereby improving compliance and helping to ensure the safety of the Nation's pipeline systems.

PHMSA analyzed this NPRM in accordance with Executive Order 13132 (“Federalism”).⁶ Executive Order 13132 requires agencies to ensure meaningful and timely input by State and local officials regarding the development of regulatory policies that may have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.”

The regulatory amendments proposed in this NPRM would not have a substantial direct effect on State or local governments, the relationship between the National Government and the States, or the distribution of power and responsibilities among the various levels of government. In addition, this rule would not impose substantial direct compliance costs on State or local governments. While the NPRM’s proposed revisions may operate to preempt some State requirements, it would not impose any regulation that has substantial direct effects on the States, the relationship between the National Government and the States, or the distribution of power and responsibilities among the various levels of government.

49 U.S.C. 60104(c) of the Federal Pipeline Safety Laws prohibits State safety regulation of interstate pipeline facilities. Under the Federal Pipeline Safety Laws, States that have submitted a current certification under 49 U.S.C. 60105(a) can augment Federal pipeline safety requirements for intrastate pipelines regulated by PHMSA but may not approve safety requirements that are less stringent than those required by Federal law. A State may also regulate an intrastate pipeline facility that PHMSA does not regulate. The preemptive effect of the regulatory amendments proposed here is limited to the minimum level necessary to achieve the objectives of the Federal Pipeline Safety Laws. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

D. Environmental Justice

⁶ 64 FR 43255 (Aug. 10, 1999).

DOT Order 5610.2C (“U.S. Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”) and Executive Orders 12898 (“Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”), 13985 (“Advancing Racial Equity and Support for Underserved Communities Through the Federal Government”), 13990 (“Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis”), and 14008 (“Tackling the Climate Crisis at Home and Abroad”) require DOT operating administrations to achieve environmental justice as part of their mission by, as appropriate, identifying and addressing the disproportionately high and adverse human health or environmental impacts of their programs, policies, and activities—including interrelated social and economic effects—on minority populations, low-income populations, and other disadvantaged communities.^{7, 8, 9, 10} PHMSA evaluated this proposed rule according to DOT Order 5610.2C and the executive orders listed above and noted it would not cause disproportionately high or adverse human health and environmental effects on minority populations, low-income populations, or other underserved and disadvantaged communities. The proposed rule is facially neutral and national in scope; it is neither directed toward a particular population, region, or community, nor is it expected to adversely impact any particular population, region, or community. Indeed, because PHMSA expects this rule would generally reduce safety and environmental risks, PHMSA understands the regulatory amendments it proposes would reduce any disproportionate human health and environmental risks for minority populations, low-income populations, or other underserved and disadvantaged communities in the vicinity of pipelines within the scope of the proposed rule’s amendments. Lastly, as explained in the draft environmental assessment in the National Environmental Policy Act section, PHMSA expects that the proposed regulatory amendments

⁷ 59 FR 7629 (Feb. 16, 1994).

⁸ 86 FR 7009 (Jan. 20, 2021).

⁹ 86 FR 7037 (Jan. 20, 2021).

¹⁰ 86 FR 7619 (Feb. 1, 2021).

would yield reductions in greenhouse-gas emissions, thereby reducing the risks posed by anthropogenic climate change to minority, low-income, underserved, and other disadvantaged populations and communities.

E. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

PHMSA analyzed this NPRM according to the principles and criteria in Executive Order 13175 (“Consultation and Coordination with Indian Tribal Governments”) and DOT Order 5301.1 (“Department of Transportation Programs, Policies, and Procedures Affecting American Indians, Alaska Natives, and Tribes”).¹¹ Executive Order 13175 requires agencies to ensure meaningful and timely input from Tribal government representatives during the development of rules that significantly or uniquely affect Tribal communities by imposing “substantial direct compliance costs” or “substantial direct effects” on such communities or the relationship and distribution of power between the Federal Government and Tribes.

PHMSA assessed the impact of the NPRM’s proposed revisions and noted that they would not significantly or uniquely affect Tribal communities or Tribal governments. The proposed rule’s regulatory amendments are facially neutral and would have broad, national scope; PHMSA, therefore, does not expect this rule would significantly or uniquely affect Tribal communities, much less that it would impose substantial compliance costs on Native American Tribal governments or mandate Tribal action. Insofar as PHMSA expects that the rule would improve safety and reduce environmental risks, PHMSA does not believe that it would entail disproportionately high adverse risks for Tribal communities. Therefore, the funding and consultation requirements of Executive Order 13175 and DOT Order 5301.1 do not apply.

F. Regulatory Flexibility Act

¹¹ 65 FR 67249 (Nov. 6, 2000).

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires Federal regulatory agencies to prepare a final regulatory flexibility analysis for any rule that is subject to notice and comment per the Administrative Procedure Act (5 U.S.C. 551 *et seq.*) unless the agency head certifies that the rule will not have a significant economic impact on a substantial number of small entities. This NPRM was developed in accordance with Executive Order 13272 (“Proper Consideration of Small Entities in Agency Rulemaking”) to facilitate compliance with the Regulatory Flexibility Act and to ensure that the potential impacts of the rulemaking on small entities has been properly considered.¹²

PHMSA estimates that the costs of incorporating these updated standards within the PSRs would be negligible. PHMSA understands that updates to consensus industry standards are generally accepted and followed on a voluntary basis throughout most of the pipeline industry; the majority of pipeline operators already purchase and voluntarily apply industry standards—including the updated standards that are the subject of this rulemaking—within their ordinary business practices. Further, incorporating such standards by reference helps to ensure that the industry is not forced to comply with competing versions of the same industry standards. Similarly, PHMSA does not expect the miscellaneous editorial and clarifying revisions proposed in this NPRM to impose meaningful compliance costs on operators. Therefore, based on the available information regarding the anticipated impact of this NPRM, PHMSA does not anticipate that this NPRM will have a significant economic impact on a substantial number of small entities.

G. Paperwork Reduction Act

PHMSA analyzed this NPRM in accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) which establishes policies and procedures for controlling paperwork burdens imposed by Federal agencies on the public and requires Federal agencies to minimize

¹² 67 FR 53461 (Aug. 16, 2002).

the burden of paperwork imposed on the U.S. public by ensuring maximum utility and quality of Federal information. This allowed for the use of information technology to improve the Federal Government's performance and accountability regarding the management of information-collection activities. This NPRM does not impose any new information-collection requirements or modify any existing information-collection requirements.

H. Unfunded Mandates Reform Act of 1995

The Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*) requires agencies to assess the effects of Federal regulatory actions on State, local, Tribal governments, and the private sector. For any NPRM or final rule that includes a Federal mandate that may result in an aggregate expenditure of \$100 million or more (in 1996 dollars) in any given year by State, local, or Tribal governments, the agency must prepare, among other things, a written statement that qualitatively and quantitatively assesses the costs and benefits of the Federal mandate. PHMSA does not expect that this NPRM would impose enforceable duties of \$100 million or more (in 1996 dollars) in any one year on either State, local, Tribal governments, or on the private sector.

I. Privacy Act Statement

In accordance with 5 U.S.C. 553(c), the DOT solicits comments from the public to better inform our rulemaking processes. The DOT posts these comments without edit, including any personal information the commenter provides, to <https://www.regulations.gov/>. This is described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <https://www.dot.gov/privacy>.

J. National Environmental Policy Act

The National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) requires Federal agencies to prepare a detailed statement on major Federal actions that significantly affect the

quality of the human environment. The Council on Environmental Quality's implementing regulations (40 CFR parts 1500-1508) require Federal agencies to conduct an environmental review considering (1) the need for the action, (2) alternatives to the action, (3) the probable environmental impacts of the action and the alternatives, and (4) the agencies and individuals that were consulted during the consideration process. DOT Order 5610.1C: Procedures for Considering Environmental Impacts establishes departmental procedures for the evaluation of environmental impacts under the National Environmental Policy Act and its implementing regulations.

In this NPRM, PHMSA proposes to incorporate 28 updated editions of currently referenced standards and makes a handful of non-substantive, editorial revisions and clarifications of PSR provisions.¹³ The incorporation of these updated standards is intended to improve compliance and safety. This outcome is expected because the updated standards utilize updated data and industry experience, as well as increasing specificity to improve enforcement.

Description of Action: The NTTAA directs Federal agencies to use voluntary consensus standards and design specifications that are developed by voluntary consensus standard bodies instead of government-developed technical standards, when applicable. PHMSA currently incorporates more than 80 standards by reference in parts 192, 193, 194, and 195 of the PSRs. PHMSA engineers and subject matter experts participate on approximately 25 standards development committees that address the design, construction, maintenance, inspection, operation, and repair of pipeline facilities. PHMSA only proposes the adoption of standards that meet the agency's directive to ensure pipeline safety and environmental protection.

Purpose and Need: Many of the industry standards currently incorporated by reference in the PSRs have been revised and updated to incorporate new technologies, methodologies, and

¹³ PHMSA's draft environmental analysis in this section focuses on proposed changes to the PSRs that pertain to the incorporation of updated versions of currently referenced industry standards, rather than the proposed miscellaneous, non-substantive, editorial, and clarifying revisions discussed in Section IV. Although PHMSA expects that the latter category of proposed non-substantive revisions would generally promote public safety and environmental protection by reducing regulatory confusion and resulting compliance costs, PHMSA does not expect any safety or environmental benefits to be material.

industry operational experience. This NPRM would allow operators to use these new technologies by incorporating new editions of the standards into the PSRs. PHMSA's technical and subject matter experts continually review the actions of pipeline standards developing committees and study industry safety practices to ensure that PHMSA's incorporation of any new editions or revised standards into the PSRs will improve public safety while providing protection for the environment. The amendments proposed in this NPRM would make the regulatory provisions more consistent with current technology and would, therefore, promote the safe transportation of hazardous liquids, natural and other gases, and liquefied natural gas by pipeline.

Alternatives Considered: In developing this NPRM, PHMSA considered two alternatives:

No-action Alternative (1): Take no action and continue to incorporate only the outdated standards that are currently referenced in the PSRs. Because PHMSA's goal is to facilitate pipeline safety and environmental protection by incorporating appropriate and up-to-date consensus standards into the PSRs, PHMSA rejected the no-action alternative. This alternative would result in the PSRs missing some or all of the safety and environmental improvements in the updated standards.

Proposed Alternative (2): Adopt the proposed amendments above and incorporate updated editions of voluntary consensus standards to allow pipeline operators to use current technologies. This is the proposed alternative. PHMSA's goal is to incorporate all or parts of updated editions of voluntary, consensus, industry technical standards into the PSRs to allow pipeline operators to use current technology, new materials, and other modern industry and management practices. PHMSA also plans to update and clarify certain provisions in the PSRs.

Affected Environment and Environmental Consequences: The Nation's natural gas and hazardous liquid pipelines are located both onshore and offshore. These facilities traverse a variety of environments ranging from highly populated urban areas to remote, unpopulated rural areas. Pipeline facilities also cross areas that contain sensitive environmental resources. The

Federal pipeline regulatory system is a prevention-oriented, risk-management system that is focused on identifying safety hazards and reducing the likelihood and impact of natural gas or hazardous liquid releases.

A release from a pipeline that transports hazardous liquid or natural gas—which is subject to PHMSA’s jurisdiction—could harm the natural environment and the health and safety of the public. The release of hazardous liquids can cause damage to or the loss of biological and ecological resources, including coastal zones, wetlands, forests, grasslands, offshore marine ecosystems, and plant and animal species and their habitats. Such releases can also imperil cultural and historical resources—such as properties listed on the National Register of Historic Places—and special ecological resources such as national and State parklands, biological reserves, wild and scenic rivers, and threatened and endangered plant and animal species and their habitats. Remediation following a hazardous-liquid release requires the removal and disposal of soil directly adjacent to and within the vicinity of pipelines, which results in the loss of vegetation. The replacement of this removed soil can result in the introduction of invasive species, which can degrade the ecological value of an area. Additionally, a release could lead to contamination of air and water resources, including oceans, streams, and lakes.

Releases from natural gas and hazardous liquid pipelines can result in fires and explosions, causing damage to the local environment. Depending on the size of the release and the nature of the failure zone, the potential impact could vary from property or environmental damage to injuries and fatalities. Further, because natural gas is composed primarily of methane (a potent greenhouse gas), releases from natural gas pipelines contribute to climate change. If ignition occurs immediately after a failure, the emissions would primarily consist of carbon dioxide, which is also a greenhouse gas.

Compliance with the PSRs substantially reduces the likelihood of accidental product release. Updating new industry standards or those already incorporated into the PSRs can provide operators with the potential advantages and added safety that may be associated with

newer technologies. These standards are based on the accumulated knowledge and experience of owners, operators, manufacturers, risk-management experts, and others involved in the pipeline industry, as well as government agencies that write regulations to ensure the products are moved safely throughout the country. PHMSA staff members actively participate in the standards development process to ensure that each incorporated standard will enhance safety and environmental protection. PHMSA reviews newer editions of standards in detail before incorporating them into the PSRs. PHMSA reviewed each of the standards described in this rule and noted that the majority of the updates involve minor changes such as editorial changes, the inclusion of best practices, or similar alterations. PHMSA staff examine updated industry standards to ensure that the updates are consistent with the PSRs, will improve compliance and safety, and are not merely self-serving.

PHMSA expects that, as discussed above (a discussion that is incorporated within this environmental assessment section), the majority of updates proposed for incorporation in this NPRM will promote public safety and environmental protection. In a small number of instances, standards organizations relax standards to reduce industry burden if such a change is justified by overlapping protections, low risk, or technological innovation. ASME B16.40-2019, for example, made a number of minor editorial changes. The sole change that might appear to relax standards was updated language in Mandatory Appendix I that removed PE2406 pipe. However, this pipe was only removed because the standard replaced it with more modern PE2708 pipe, thereby advancing pipeline safety.

The 4th and 5th editions of API RP 652, which PHMSA is proposing for incorporation into § 195.579(d), discuss the use of risk-based inspections to determine the frequency of inspection intervals. However, § 195.579(d), does not allow pipeline owners or operators to use risk-based factors to determine inspection frequency; therefore, this practice is inapplicable to the pipeline facilities that are subject to this regulation. Additionally, the 5th edition removed a number of documents from the standard and does not distinguish the editions of standards listed

in Section 2. However, PHMSA understands that the removal of documents and the failure to distinguish standard editions would not impact the level of safety that this standard provides.

API Spec 12F and API 650 are currently authorized design standards for aboveground breakout tanks, as specified in § 195.132. API Spec 12F is a design standard for shop-fabricated tanks used in production operations and API 650 is a generic design standard applicable to welded tanks for oil storage. However, since API 650 has a broader scope than API Spec 12F, PHMSA is seeking comment regarding whether it would be appropriate to remove API Spec 12F as an option for aboveground breakout tanks.

ASME B31.4-2019 removes Section 419, which might initially seem like a reduction in safety; however, the information from that section was integrated into Sections 401, 402, and 403. PHMSA intends to incorporate by reference all of Sections 401 and 402, as well as parts of Section 403, thereby establishing essentially the same design requirements found in ASME B31.4-2006 without adding additional design requirements in later editions of B31.4, many of which are already included in other parts of 49 CFR part 195.

ASNT ILI-PQ 2017 changes the word “ensure” to “verify” throughout the standard. PHMSA understands that this increases safety by providing users with additional clarity and enforceability regarding their responsibilities.

ASTM A578/A578M-17 removes a reference to clad-steel plates. PHMSA understands that these are non-substantive changes that would not result in a reduction in pipeline safety.

ASTM D2564-20 adds F3328-18: Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets. The PSRs only allow the repair of existing PVC piping in regulated piping systems, but do not permit the use of PVC or CPVC piping in new or replacement construction. ASTM D2564-20 added F3328-18 to allow a new one-step application of solvent cement to join PVC or CPVC pipe and fittings, as, prior to 2020, the PSRs only allowed a two-step solvent-cement process that involved the use of a primer and

cement to join PVC or CPVC piping. This is an alternative to the two-step primer and solvent process; and, like that process, it fulfills the requirements of ASTM D2564 and provides equally safe, reliable, and effective joining of PVC/CPVC pipe and fittings. PHMSA determined that this change will not adversely affect either pipeline safety or PHMSA regulations.

ASTM F1055-16a removes standards, adds PEX pipe, adds an optional alternative to full-scale tensile and crush tests, and removes language and references to older PE pipe material designations such as PE2306, PE2406, PE3406, and PE3408. The standards that it removes either are no longer used or do not apply to the type of fittings this standard addresses. Additionally, the standard specifies that the addition of PEX pipe does not imply that PEX is an acceptable piping material for part 192 applications, as the standard states that electrofusion-fitting-joined PEX pipes may not be used to distribute natural or liquid petroleum gas. The language and references to older PE pipe materials that this standard removes are replaced by language and references to newer PE pipe materials, such as PE2708 and PE4710. Finally, the optional alternative to the full-scale tensile and crush tests is limited in application to coupling-type joints that are 8 IPS and larger and may only be used in cases where equipment to provide the full-scale tests is not readily available. As stated previously, standard equipment that is used to test pipes up to 6 inches in diameter does not have the strength to test pipes that are 8 inches in diameter or greater due to the increased wall thickness of the pipes, which increases their tensile strength and stiffness. The modified alternative testing was developed to test in a way that is similar to the way in which steel pipe and welds on steel pipe are tested. This testing requires standard samples cut from the joint or material to be qualified, after which the samples are tested according to standard methods and procedures listed in Appendix A2.

ASTM F1924-19 revises Section 7 to adjust temperature values from single-decimal values to rounded single-digit values (e.g., $73.4 \pm 3.6^{\circ}\text{F}$ ($23 \pm 2^{\circ}\text{C}$) now reads $73 \pm 4^{\circ}\text{F}$ ($23 \pm 2^{\circ}\text{C}$)). However, this is considered an editorial change and should not reduce safety.

ASTM F1948-20 eliminates nonmandatory Appendix X2 and adds four referenced documents to Section 2. These are important revisions, as they specify testing requirements for transitions between different types of thermoplastic piping or between metallic and thermoplastic piping. Further, ASTM F1948-20 incorporates the eliminated nonmandatory appendix into performance requirements for material transitions in the body of the standard. ASTM F1948-20 also requires installation instructions to state the piping material(s) and/or combinations for which the fitting was qualified. These changes increase specificity and safety.

ASTM F2785-18 removes Section 5.4 and rennumbers the remaining subparts of Section 5. This is not a reduction in safety because Section 6.3 remains in the standard.

NACE SP0102-2017 makes optional standards mandatory by replacing the word “should” with the word “shall” 74 times. This constitutes a significant change. However, PHMSA expects that this would make little or no difference for the majority of pipeline operators, as pipeline operators are familiar with this standard and most already adhere to these requirements. This change strengthens the standard, thereby increasing safety.

PPI TR-3 removes the definition of multilayer pipe. This is not a reduction in safety, however, as PHMSA expects that removal of the definition will eliminate confusion regarding composite pipe groups.

PPI TR-4 deletes companies and material designations from Table I.A.I, removes names, and deletes Table I.A.21. This is not a reduction in safety, however, because PHMSA reviewed these edits and noted that they were merely editorial changes and clarifications.

Further, PHMSA proposes to revise the definition of a moderate consequence area in 49 CFR 192.3 by replacing the reference to a FHWA document with a reference to the new appendix G to 49 CFR part 192. The relevant language in appendix G would provide the same guidance on moderate consequence areas that is currently provided by the FHWA document, including guidance relevant to the terms in the definition of a moderate consequence area. Thus,

this proposed amendment would not result in a substantive change to the definition of a moderate consequence area.

Finally, PHMSA proposes the removal of ASTM D638 from the listing in § 192.7(e)(10). This proposal is due to changes in the recent Plastic Pipe Rule.¹⁴ The Plastic Pipe Rule edited language in § 192.283(a) and (b), which no longer references ASTM D638. These sections reference additional standards that are now incorporated for different material types, such as ASTM F2945 for PA11 and ASTM F2785 for PA12.

Agencies and Individuals Consulted: Subject matter experts within PHMSA's Office of Pipeline Safety prepared this draft environmental assessment. PHMSA solicits and will consider comments by members of the public, State and local governments, Tribal communities, and industry regarding the NPRM's potential impacts on the human environment.

Proposed Finding of No Significant Impact: PHMSA incorporates consensus standards that allow the pipeline industry to use improved technologies, new materials, performance-based approaches, manufacturing processes, and lessons learned to enhance public safety and environmental protection. PHMSA's goal is to ensure hazardous liquids, liquefied natural gas, and natural and other gases transported by pipeline will arrive safely to their destinations. PHMSA is confident that the standards proposed for incorporation by reference will enhance the effectiveness of operator actions related to design, operation, maintenance, and repair of pipeline facilities. Thus, PHMSA's proposal is that this rulemaking will not result in significant environmental impact.

K. Executive Order 13211

Executive Order 13211 ("Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use") requires Federal agencies to prepare a Statement of

¹⁴ PHMSA, "Pipeline Safety: Plastic Pipe Rule," 83 FR 58694 (Nov. 20, 2018).

Energy Effects for any “significant energy action.”¹⁵ That Executive order defines a “significant energy action” as any action by an agency (normally published in the Federal Register) that promulgates or is expected to lead to the promulgation of a final rule or regulation (including a notice of inquiry, advanced NPRM, or NPRM) that (1) is a significant regulatory action under Executive Order 12866 or any successor order and is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (2) is designated by the administrator of OIRA as a significant energy action.

Transporting gas and hazardous liquids affects the Nation’s available energy supply. However, PHMSA understands that this NPRM would not be a significant energy action under Executive Order 13211 because it would not be a significant regulatory action under Executive Order 12866 and would not likely have a significant adverse effect on the supply, distribution, or use of energy. Further, OIRA has not designated this NPRM as a significant energy action.

L. Executive Order 13609 and International Trade Analysis

Executive Order 13609 (“Promoting International Regulatory Cooperation”) requires agencies to consider whether the impacts associated with significant variations between domestic and international regulatory approaches are unnecessary or may impair the ability of U.S. businesses to export and compete internationally.¹⁶ By meeting shared challenges involving health, safety, labor, environmental, security, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that would be adopted in the absence of such cooperation. International regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in regulatory requirements.

Similarly, the Trade Agreements Act of 1979 (Pub. L. 96-39), as amended by the Uruguay Round Agreements Act (Pub. L. 103-465), prohibits Federal agencies from establishing

¹⁵ 66 FR 28355 (May 22, 2001).

¹⁶ 77 FR 26413 (May 4, 2012).

any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. For purposes of these requirements, Federal agencies may participate in the establishment of international standards, so long as the standards have a legitimate domestic objective—such as helping to ensure safety—and do not operate to exclude imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they serve as the basis for U.S. standards. PHMSA participates in the establishment of international standards to protect the safety of the U.S. public. PHMSA assessed the effects of the proposed rule and understands that it would not cause unnecessary obstacles to foreign trade.

List of Subjects

49 CFR Part 191

Incident, Notifications.

49 CFR Part 192

Incorporation by reference, Natural gas, Pipeline safety.

49 CFR Part 195

Anhydrous ammonia, Carbon dioxide, Incorporation by reference, Petroleum, Pipeline safety.

In consideration of the foregoing, PHMSA is proposing to amend 49 CFR parts 191, 192, and 195 as follows:

PART 191—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE; ANNUAL, INCIDENT, AND OTHER REPORTING

1. The authority citation for part 191 continues to read as follows:

Authority: 30 U.S.C. 185(w)(3), 49 U.S.C. 5121, 60101 *et. seq.*, and 49 CFR 1.97.

§ 191.5 [Amended]

2. Amend § 191.5(c) by removing the word “telephonic”.

§ 191.22 [Amended]

3. Amend § 191.22(c)(1)(i) by removing the words “Construction of any planned rehabilitation” and adding, in their place, the words “Construction or any planned rehabilitation”.

**PART 192—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE:
MINIMUM FEDERAL SAFETY STANDARDS**

4. The authority citation for part 192 continues to read as follows:

Authority: 30 U.S.C. 185(w)(3), 49 U.S.C. 5103, 60101 *et. seq.*, and 49 CFR 1.97.

§ 192.3 [Amended]

5. Amend § 192.3 in paragraph (1)(ii) of the definition of a “Moderate consequence area” by removing the text “see:

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf” and adding, in its place, the text “*see* appendix G to this part”.

6. Amend § 192.7 by:

a. Removing the text “Item I, Appendix B to Part 192” wherever it appears, and adding, in its place, the text “item I, appendix B to this part”;

b. Removing the text “http://” wherever it appears;

c. Removing the text “, phone:” wherever it appears, and adding, in its place, the text “; phone:”;

d. Removing the text “, Web site:” wherever it appears, and adding, in its place, the text “; website:”;

e. Revising paragraph (a);

f. Revising the introductory text to paragraph (b);

- g. Revising the introductory text to paragraph (c) and paragraph (c)(3);
- h. Revising paragraph (d);
- i. Removing paragraph (h) and redesignating paragraphs (e) through (g) as paragraphs (f) through (h);
- j. Adding new paragraph (e);
- k. Revising the introductory text to newly-redesignated paragraph (f) and newly-redesignated paragraphs (f)(4), (6), and (8);
- l. Removing and reserving newly-redesignated paragraph (f)(10);
- m. Revising newly-redesignated paragraph (f)(11);
- n. In newly-redesignated paragraph (f)(12), removing the text “D 2517” and adding, in its place, the text “D2517”;
- o. Revising newly-redesignated paragraphs (f)(13) through (24);
- p. Revising the introductory text for paragraph (i) and paragraph (i)(1);
- q. Revising the introductory text to paragraph (j); and
- r. Revising paragraph (k).

The revisions and addition read as follows:

§ 192.7 What documents are incorporated by reference partly or wholly in this part?

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. The materials listed in this section have the full force of law. All approved incorporation by reference material (IBR) is available for inspection at the Pipeline and Hazardous Materials Safety Administration (PHMSA) and the National Archives and Records Administration (NARA). Contact PHMSA at: Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, 1200 New Jersey Avenue SE, Washington, DC 20590, 202-366-4046; www.phmsa.dot.gov/pipeline/regs. For information on the availability of this material at NARA, email frinspection@nara.gov or go

to www.archives.gov/federal-register/cfr/ibr-locations.html. The material may be obtained from the sources in the following paragraphs of this section.

(b) American Petroleum Institute (API). 200 Massachusetts Avenue NW, Suite 1100, Washington, D.C. 20001-5571; phone: (202) 682-8000; website: www.api.org/.

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(c) American Society of Mechanical Engineers (ASME). Three Park Avenue, New York, NY 10016; phone: (800) 843-2763 (U.S./Canada); website: www.asme.org/.

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(3) ASME B16.40-2019, “Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems”, February 11, 2019, approved by ANSI, (ASME B16.40); IBR approved for item I, appendix B to this part.

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(d) American Society for Nondestructive Testing, (ASNT). 1711 Arlingate Lane, P.O. Box 28518, Columbus, OH 43228; phone: (800) 222-2768; website: www.asnt.org/.

(1) ASNT ILI-PQ 2017, “In-line Inspection Personnel Qualification and Certification”, January 1, 2018, (ASNT ILI-PQ); IBR approved for § 192.493.

(2) [Reserved]

(e) Association for Material Protection and Performance (AMPP), (formerly NACE, International). 1440 South Creek Drive, Houston, Texas 77084; phone: (281) 228-6223 or (800) 797-6223; website: www.ampp.org/.

(1) ANSI/NACE SP0502-2010, Standard Practice, “Pipeline External Corrosion Direct Assessment Methodology”, revised June 24, 2010, (NACE SP0502); IBR approved for §§ 192.620(d); 192.923(b); 192.925(b); 192.931(d); 192.935(b); 192.939(a).

(2) NACE SP0102-2017, “In-Line Inspection of Pipelines,” March 10, 2017, (NACE SP0102); IBR approved for §§ 192.150(a); 192.493.

(f) ASTM International. 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428; phone: (610) 832-9585; website: www.astm.org/.

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(4) ASTM A372/A372M-20e1, “Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels”, approved March 1, 2020, (ASTM A372/A372M); IBR approved for § 192.177(b).

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(6) ASTM A578/A578M-17, “Standard Specification for Straight-Beam Ultrasonic Examination of Rolled Steel Plates for Special Applications”, approved November 1, 2017, (ASTM A578/A578M); IBR approved for § 192.112(c).

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(8) ASTM A672/A672M-19, “Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures”, approved November 1, 2019, (ASTM A672/672M); IBR approved for § 192.113; item I, appendix B to this part.

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(11) ASTM D2513-20, “Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings”, approved December 1, 2020, (ASTM D2513); IBR approved for item I, appendix B to this part.

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(13) ASTM D2564-20, “Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems”, approved August 1, 2020, (ASTM D2564); IBR approved for § 192.281(b).

(14) ASTM F1055-16a, “Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing”, approved November 15, 2016, (ASTM F1055); IBR approved for § 192.283(a); item I, appendix B to this part.

(15) ASTM F1924-19, “Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing”, approved August 1, 2019, (ASTM F1924); IBR approved for item I, appendix B to this part.

(16) ASTM F1948-20, “Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing”, approved February 1, 2020, (ASTM F1948); IBR approved for item I, appendix B to this part.

(17) ASTM F1973-13(2018), “Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems”, approved February 1, 2018, (ASTM F1973); IBR approved for § 192.204(b); item I, appendix B to this part.

(18) ASTM F2145-13(2018), “Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing”, approved February 1, 2018, (ASTM F2145); IBR approved for item I, appendix B to this part.

(19) ASTM F2600-09(2018), “Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing”, approved February 1, 2018, (ASTM F2600); IBR approved for item I, appendix B to this part.

(20) ASTM F2620-20ae2, “Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings”, approved December 1, 2020, (ASTM F2620); IBR approved for §§ 192.281(c); 192.285(b).

(21) ASTM F2767-18, “Standard Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution”, approved April 1, 2018, (ASTM F2767); IBR approved for item I, appendix B to this part.

(22) ASTM F2785-21, “Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings”, approved July 1, 2021, (ASTM F2785); IBR approved for item I, appendix B to this part.

(23) ASTM F2817-13(2019), “Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings for Maintenance or Repair”, approved May 1, 2019, (ASTM F2817); IBR approved for item I, appendix B to this part.

(24) ASTM F2945-18, “Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings”, approved September 1, 2018, (ASTM F2945); IBR approved for item I, appendix B to this part.

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(i) National Fire Protection Association (NFPA). 1 Batterymarch Park, Quincy, Massachusetts 02169; phone: (617) 984-7275; website: www.nfpa.org/.

(1) NFPA 30, “Flammable and Combustible Liquids Code,” 2021 Edition, ANSI-approved August 31, 2020, (NFPA 30); IBR approved for § 192.735(b).

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(j) Pipeline Research Council International, Inc. (PRCI). 15059 Conference Center Drive Suite 130, Chantilly, VA 20151; phone: (703) 205-1600; website: www.prci.org.

* * * * *

(k) Plastics Pipe Institute, Inc. (PPI). 105 Decker Court, Suite 825, Irving, TX 75062; phone: (469) 499-1044; website: www.plasticpipe.org/.

(1) PPI TR-3/2021, “Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Hydrostatic Design Stresses (HDS), Pressure Design Basis (PDB), Strength Design Basis (SDB), Minimum Required Strength (MRS) Ratings, and Categorized Required Strength (CRS) for Thermoplastic Piping Materials or Pipe,” June 16, 2021, (PPI TR-3); IBR approved for § 192.121(a).

(2) PPI TR-4/2021, “PPI HSB Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe,” June 16, 2021, (PPI TR-4); IBR approved for § 192.121(b).

7. Amend § 192.18 by revising paragraph (a)(2) to read as follows:

§ 192.18 How to notify PHMSA.

(a) * * *

(2) Sending the notification by mail to ATTN: Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, PHF-30, 1200 New Jersey Avenue SE, Washington, D.C. 20590.

* * * * *

8. Amend § 192.113 by removing the entry for “ASTM A 672” and adding the entry “ASTM A672/A672M” in its place to read as follows:

§ 192.113 Longitudinal joint factor (*E*) for steel pipe.

* * * * *

Specification	Pipe class	Longitudinal joint factor (<i>E</i>)
* * * * *	* * *	
ASTM A672/A672M	Electric-fusion-welded	1.00
* * * * *	* * *	

* * * * *

§ 192.121 [Amended]

9. Amend § 192.121 by:

a. In paragraph (a), removing the text “PPI TR-3/2012” and adding, in its place, the text “PPI TR-3”; and

b. In paragraph (b)(4), removing the text “PPI TR-4/2012” and adding, in its place, the text “PPI TR-4”.

§ 192.204 [Amended]

10. Amend § 192.204(b) by removing the text “ASTM F1973-13” and adding, in its place, the text “ASTM F1973”.

§ 192.281 [Amended]

11. Amend § 192.281(b)(2) by removing the text “ASTM D2564-12” and adding, in its place, the text “ASTM D2564”.

§ 192.283 [Amended]

12. Amend § 192.283 by:

- a. In paragraph (a)(1)(ii), removing the text “ASTM D2517- 00” and adding, in its place, the text “ASTMD2517”; and
- b. In paragraph (a)(1)(iii), removing the text “ASTM F1055-98(2006)” and adding, in its place, the text “ASTM F1055”.

§ 192.327 [Amended]

13. Amend § 192.327(g) by removing the text “§ 192.612(b)(3)” and adding, in its place, the text “§ 192.612(c)(3)”.

§ 192.493 [Amended]

14. Amend § 192.493 by removing the text “ANSI/ASNT” and adding, in its place, the text “ASNT”.

15. Amend § 192.620 by revising paragraph (d)(7)(ii) to read as follows:

§ 192.620 Alternative maximum allowable operating pressure for certain steel pipelines.

* * * * *

(d) * * *

To address increased risk of a maximum allowable operating pressure based on higher stress levels in the following areas:	Take the following additional step:
* * *	* * * *
(7) * * *	* * * *
	(ii) Remediate any construction damaged coating with a voltage drop classified as moderate or severe (IR drop greater than 35% for DCVG or 50 dB μ v for ACVG) under Section 4 of NACE SP0502 (incorporated by reference, <i>see</i> § 192.7).
* * *	* * * *

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16. Amend appendix B to part 192 by:

a. In item I.A.:

i. Removing the text “ASTM A672/A672M-09” and adding, in its place, the text “ASTM A672/A672M”;

ii. Removing the text “D2513“Standard” and adding, in its place, the text “D2513 “Standard”;

iii. Removing the text “D 2517-00 - Thermosetting plastic pipe and tubing,” and adding, in its place, the text “D2517”;

iv. Removing the text “ASTM F2785-12” and adding, in its place, for the text “ASTM F2785”;

v. Removing the text “ASTM F2817-10” and adding, in its place, for the text “ASTM F2817”; and

vi. Removing the text for “ASTM F2945-12a” and adding, in its place, for the text “ASTM F2945”; and

b. Revising item I.B.

The revision reads as follows:

Appendix B to Part 192 – Qualification of Pipe and Components

I. * * *

B. Other Listed Specifications for Components

ASME B16.40 “Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems” (incorporated by reference, see § 192.7).

ASTM D2513 “Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings” (incorporated by reference, see § 192.7).

ASTM D2517 “Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings” (incorporated by reference, see § 192.7).

ASTM F1055 “Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing” (incorporated by reference, see § 192.7).

ASTM F1924 “Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing” (incorporated by reference, see § 192.7).

ASTM F1948 “Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing” (incorporated by reference, see § 192.7).

ASTM F1973 “Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA 11) and Polyamide 12 (PA 12) Fuel Gas Distribution Systems” (incorporated by reference, see § 192.7).

ASTM F2145 “Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing” (incorporated by reference, see § 192.7).

ASTM F 2600 “Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing” (incorporated by reference, see § 192.7).

ASTM F2767 “Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution” (incorporated by reference, see § 192.7).

ASTM F2785 “Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings” (PA-12) (incorporated by reference, see § 192.7).

ASTM F2817 “Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings for Maintenance or Repair” (incorporated by reference, see § 192.7).

ASTM F2945 “Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings” (PA-11) (incorporated by reference, see § 192.7).

* * * * *

17. Add appendix G to part 192 to read as follows:

Appendix G to Part 192 – Guidance on Moderate Consequence Areas

I. List of Definitions

A. Other Principal Arterials

These roadways serve major centers of metropolitan areas, provide a high degree of mobility, and can also provide mobility through rural areas. Unlike their access-controlled counterparts, these roadways can serve abutting land uses directly. Forms of access for other

principal arterial roadways include driveways to specific parcels and at-grade intersections with other roadways. For the most part, roadways that fall into the top three functional classification categories (interstate, other freeways and expressways, and other principal arterials) provide similar service in both urban and rural areas. The primary difference is that multiple arterial routes usually serve a particular urban area, radiating out from the urban center to serve the surrounding region. In contrast, an expanse of a rural area of equal size would be served by a single arterial.

B. Minor Arterials

Minor arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher-arterial counterparts, and offer connectivity to the higher-arterial system. In an urban context, they interconnect and augment the higher-arterial system, provide intra-community continuity, and may carry local bus routes. In rural settings, minor arterials should be identified and spaced at intervals that are consistent with population density so that all developed areas are within a reasonable distance of a higher-level Arterial. Additionally, minor arterials in rural areas are typically designed to provide relatively high overall travel speeds, with minimum interference to through movement. The spacing of minor-arterial streets may typically vary from 1/8- to 1/2-mile in the central business district and between 2 and 3 miles in the suburban fringes. Normally, the spacing should not exceed 1 mile in fully developed areas.

C. Major and Minor Collectors

Collectors serve a critical role in the roadway network by gathering traffic from local roads and funneling it into the arterial network. Within the context of functional classification, collectors are broken down into two categories: major collectors and minor collectors. Until recently, this division was considered only in the rural environment. Currently, all collectors, regardless of whether they are within a rural area or an urban area, may be sub-stratified into

major and minor categories. The determination regarding whether a given collector is a major or minor collector is frequently one of the biggest challenges in functionally classifying a roadway network. In the rural environment, collectors generally serve primarily intra-county travel (rather than statewide) and constitute those routes on which, independent of traffic volume, predominant travel distances are shorter than on arterial routes. Consequently, more moderate speeds may be posted. The distinctions between major collectors and minor collectors are often subtle. Generally, major-collector routes are longer in length, have lower connecting-driveway densities, have higher speed limits, are spaced at greater intervals, have higher annual average traffic volumes, and may have more travel lanes than their minor-collector counterparts. Careful consideration should be given to these factors when assigning a major or minor collector designation. In rural areas, annual average daily traffic and spacing may be the most significant designation factors. Since major collectors offer more mobility and minor collectors offer more access, it is beneficial to reexamine these two fundamental concepts of functional classification. Overall, the total mileage of major collectors is typically lower than the total mileage of minor collectors, while the total collector mileage is typically one-third of the local roadway network.

PART 195 – TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE

18. The authority citation for part 195 continues to read as follows:

Authority: 30 U.S.C. 185(w)(3), 49 U.S.C. 5103, 60101 *et seq.*, and 49 CFR 1.97.

19. Amend § 195.3 by:

- a. Revising paragraph (a);
- b. Revising the introductory text of paragraph (b) and paragraphs (b)(6), (11), (15) and (16), and (21) through (23);
- c. Revising the introductory text of paragraph (c) and paragraph (c)(3);
- d. Revising paragraph (d);
- e. Removing paragraph (g) and redesignating paragraphs (e) and (f) as paragraphs (f) and (g);

- f. Adding new paragraph (e);
- g. Revising the introductory text of newly-redesignated paragraph (f) and newly-redesignated paragraph (f)(6);
- h. In newly-redesignated paragraph (g) introductory text:
- i. Removing the text “ , phone:” and adding, in its place, the text “; phone:”; and
- ii. Removing the text “ , Web site: http://” and adding, in its place, the text “; website:”;
- i. Revising paragraph (h); and
- j. Revising the introductory text to paragraph (i).

The revisions and addition read as follows:

§ 195.3 What documents are incorporated by reference partly or wholly in this part?

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. The materials listed in this section have the full force of law. All approved incorporation by reference material (IBR) is available for inspection at the Pipeline and Hazardous Materials Safety Administration (PHMSA) and the National Archives and Records Administration (NARA). Contact PHMSA at: Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, 1200 New Jersey Avenue SE, Washington, DC 20590, 202-366-4046; www.phmsa.dot.gov/pipeline/regs. For information on the availability of this material at NARA, email frinspection@nara.gov or go to www.archives.gov/federal-register/cfr/ibr-locations.html. The material may be obtained from the sources in the following paragraphs of this section.

(b) American Petroleum Institute (API). 200 Massachusetts Avenue NW, Suite 1100, Washington, D.C. 20001-5571; phone: (202) 682-8000; website: www.api.org/.

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(6) API Recommended Practice 652, “Linings of Aboveground Petroleum Storage Tank Bottoms,” 5th Edition, May 1, 2020, (API RP 652); IBR approved for § 195.579(d).

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(11) API Recommended Practice 2003, “Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents,” 8th Edition, September 1, 2015, (API RP 2003); IBR approved for § 195.405(a).

* * * * *

(15) API Specification 12F, “Specification for Shop Welded Tanks for Storage of Production Liquids,” 13th Edition, January 1, 2019, (API Spec 12F); IBR approved for §§ 195.132(b); 195.205(b); 195.264(b), (e); 195.307(a); 195.565; 195.579(d).

(16) API Standard 510, “Pressure Vessel Inspection Code: In-Service Inspection, Rating, Repair, and Alteration,” 10th Edition, May 1, 2014, (API Std 510), Including Addendum 1 (May 2017) and Addendum 2 (March 2018); IBR approved for §§ 195.205(b); 195.432(c).

* * * * *

(21) API Standard 1163, “In-Line Inspection Systems Qualification”, Second edition, April 2013, (API Std 1163); IBR approved for § 195.591.

(22) ANSI/API Standard 2000, “Venting Atmospheric and Low-pressure Storage Tanks,” 6th edition, November 2009, (ANSI/API Std 2000); IBR approved for § 195.264(e).

(23) API Standard 2510, “Design and Construction of LPG Installations,” 9th Edition, August 2020, (API Std 2510); IBR approved for §§ 195.132(b); 195.205(b); 195.264(b), (e); 195.307(e); 195.428(c); 195.432(c).

(c) American Society of Mechanical Engineers (ASME). Two Park Avenue, New York, NY 10016; phone: (800) 843-2763 (U.S/Canada); website: www.asme.org/.

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(3) ASME B31.4-2019, “Pipeline Transportation Systems for Liquids and Slurries,” November 1, 2019, (ASME B31.4); IBR approved for § 195.110(a).

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(d) American Society for Nondestructive Testing (ASNT). P.O. Box 28518, 1711 Arlingate Lane, Columbus, OH 43228; phone: (800) 222-2768; website: www.asnt.org.

(1) ASNT ILI-PQ-2017, “In-line Inspection Personnel Qualification and Certification,” January 1, 2018, (ASNT ILI-PQ); IBR approved for § 195.591.

(2) [Reserved]

(e) Association for Material Protection and Performance (AMPP) (formerly NACE). 1440 South Creek Drive, Houston, TX 77084; phone: (281) 228-6223 or (800) 797-6223; website: www.ampp.org/.

(1) NACE SP0169-2007, Standard Practice, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems”, reaffirmed March 15, 2007, (NACE SP0169); IBR approved for §§ 195.571; 195.573(a).

(2) ANSI/NACE SP0502-2010, Standard Practice, “Pipeline External Corrosion Direct Assessment Methodology,” June 24, 2010, (NACE SP0502); IBR approved for § 195.588(b).

(3) NACE SP0102-2017, “In-Line Inspection of Pipelines,” March 10, 2017, (NACE SP0102); IBR approved for §§ 195.120(a); 195.591.

(4) NACE SP0204-2008, “Standard Practice, Stress Corrosion Cracking (SSC) Direct Assessment Methodology”, reaffirmed September 18, 2008, (NACE SP0204); IBR approved for § 195.588(c).

(f) ASTM International. 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428; phone: (610) 832-9585; website: www.astm.org/.

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(6) ASTM A672/A672M-19, “Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures,” approved November 1, 2019, (ASTM A672/672M); IBR approved for § 195.106(e).

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(h) National Fire Protection Association (NFPA). 1 Batterymarch Park, Quincy, MA 02169; phone: (800) 344-3555; website: www.nfpa.org/.

(1) NFPA 30, “Flammable and Combustible Liquids Code,” 2021 Edition, ANSI-approved August 31, 2020; IBR approved for § 195.264(b).

(2) [Reserved]

(i) Pipeline Research Council International, Inc. (PRCI). 15059 Conference Center Drive Suite 130, Chantilly, VA 20151; phone: (703) 205-1600; website: www.prci.org.

* * * * *

§ 195.54 [Amended]

20. Amend § 195.54 by removing the text “on DOT Form 7000-1” wherever it appears and adding, in its place, the text “on DOT Form 7000-1 or 7000-2, whichever is applicable”.

21. Amend § 195.110 by revising paragraph (a) to read as follows:

§ 195.110 External loads.

(a) Anticipated external loads (e.g., earthquakes, vibration, thermal expansion, and contraction) must be provided for in a pipeline system’s design. Sections 401, 402, 403.3, and 403.9 of ASME B31.4 (incorporated by reference, *see* § 195.3) must be followed to provide for expansion and flexibility.

* * * * *

§ 195.264 [Amended]

22. Amend § 192.264(b)(1) introductory text by removing the text “NFPA-30” and adding, in its place, the text “NFPA 30”.

§ 195.307 [Amended]

23. Amend § 192.307 by:

- a. In paragraph (a), removing the text “12 F” and adding, in its place, the text “12F”;
- b. In paragraph (d), removing the text “12 C” and adding, in its place, the text “12C”; and

c. In paragraph (e), removing the text “or 2)” and adding, in its place, the text “or 2, incorporated by reference, see § 195.3)”.

24. Revise § 195.591 to read as follows:

§ 195.591 In-Line inspection of pipelines.

When conducting in-line inspection of pipelines required by this part, each operator must comply with the requirements and recommendations of API Std 1163, ASNT ILI-PQ, and NACE SP0102 (all incorporated by reference, *see* § 195.3). An in-line inspection may also be conducted using tethered or remote-control tools provided they generally comply with those sections of NACE SP0102 that are applicable.

Issued in Washington, DC, on August 5, 2022, under authority delegated in 49 CFR 1.97.

Alan K. Mayberry,

Associate Administrator for Pipeline Safety.

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